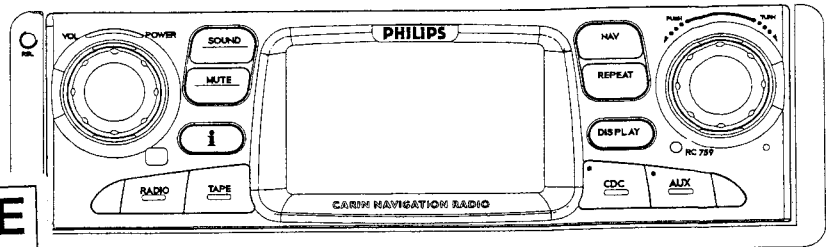


Service
Service
Service



ERSATZTEILE
für Philips Car Systems
erhalten Sie bei:
KiVi Service GmbH
Windmühlenstr. 41 · 31178 Giesen/Emmerke
Tel.: 0 51 21 / 6 00 20 · Fax 0 51 21 / 6 00 2 54



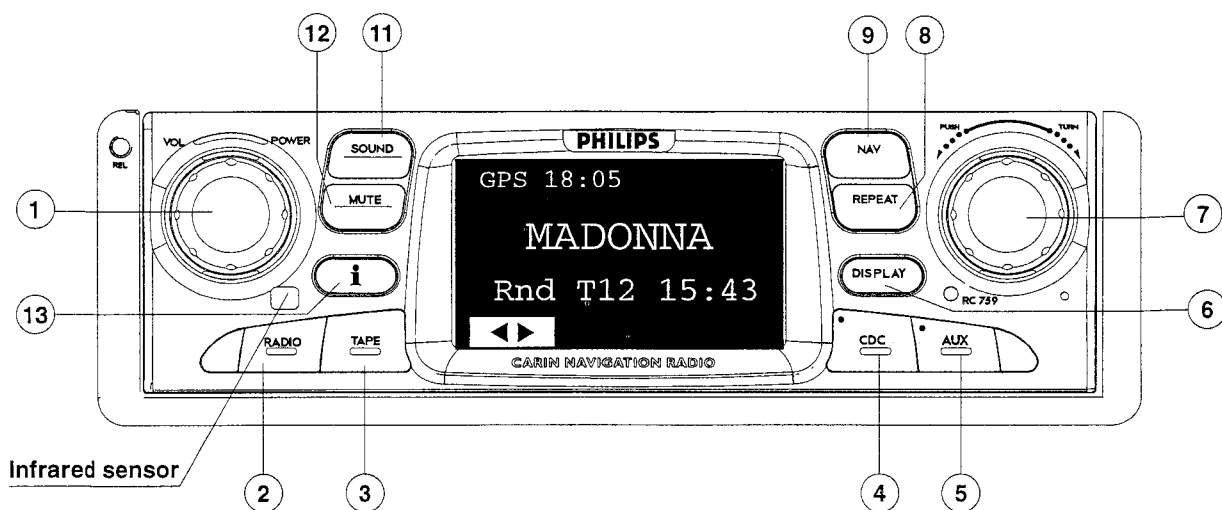
For repair information of the tape deck, see service manual 4822 725 25481 of auto cassette deck SCAR 3.1.

Service Manual

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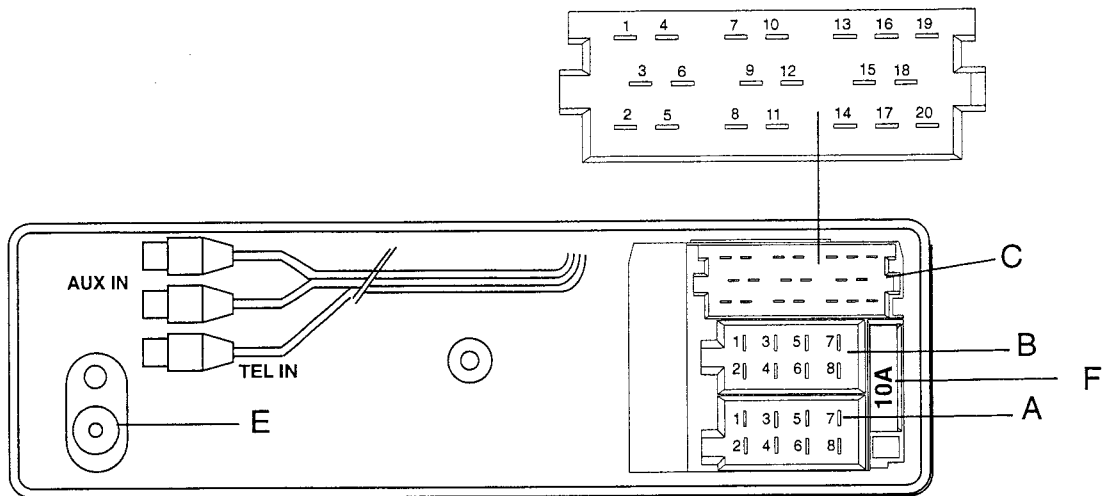
PHILIPS



	Keys	Application	Action
1	Audio Rotary button	Audio	Adjust selected audio settings
		Power control	Power switch On/Off
11	Sound key	Audio	Select audio settings
12	Mute key	Audio	Volume mute selection
8	Repeat key	Navigation	Repeat last Navigation message
7	Menu rotary button	User Interface	Menu items selection or DFA activation
			Menu item activation or DFA selection
6	Display key	User Interface	Audio / Navigation display selection
13	Information key	Announce	Announcement modes selection
2	Radio key	State control	Radio source selection
3	CD key or Tape key	State control	Player source selection
9	Navigation key	User interface	Navigation menu enter
4	CDC key	State control	CDC source selection
5	Tel./Aux key	State control	Telephone or Auxiliary source selection
REL	Front flap down button	Power control	Remove front

22RC759/00

Zoom on C chamber



Name of signal on schematic PS01		Name of signal on schematic UP02	
A : POWER SUPPLY			
A1	Telephone mute	A1	
A2	Mouse GND		
A3	Mouse		
A4	Plus permanent +	POWER	
A5	Electrical antenna	A5	
A6	External illumination plus	A6	
A7	Ignition On / Off	NO_POWER	
A8	Power ground		
B : LOUDSPEAKER SUPPLY			
B1	Rear right +	B1	
B2	Rear right -	B2	
B3	Front right +	B3	
B4	Front right -	B4	
B5	Front left +	B5	
B6	Front left -	B6	
B7	Rear left +	B7	
B8	Rear left -	B8	
C:			
C1	Rear left	C1	LO_RL
C2	Rear right		LO_RR
C3	Gnd		
C4	Front left		LO_FL
C5	Front right	C2	LO_FR
C6	= A5		
C7	= A7		NO_POWER
C8	Carin in		CARIN_AUD
C9	Carin ref	C3	CARIN_REF
C10	D2B+		DB+
C11	D2B GND		
C12	D2B-		DB-
C13	D2B+	C3	DB+
C14	D2B-		DB-
C15	D2B GND		
C16	+ Permanent		+14V4 CDC
C17	= A5		CDC_REF
C18	In ref		CDC_LEFT
C19	In left		CDC_RIGHT
C20	In right		

C1 Line out
for YELLOW connector

E : Aerial plug slide in

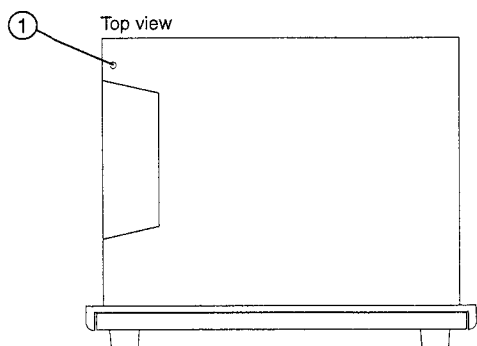
F : Fuse 10A

C2 Nav computer
For GREEN connector

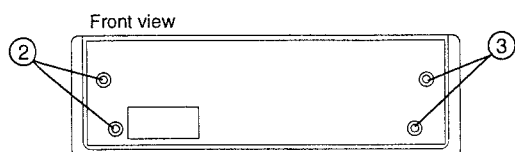
C3 CD changer
for BLUE connector

22RC759/00

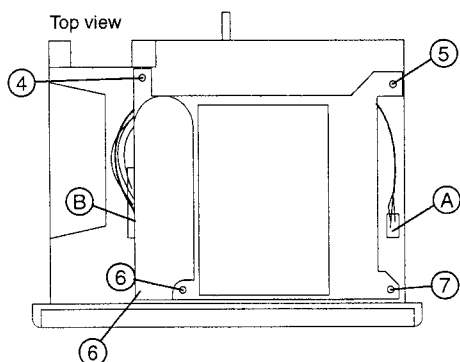
REMOVING THE PWB



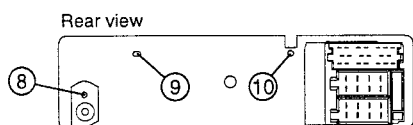
Remove the cover top (screw 1) and the cover bottom
Remove the detachable front



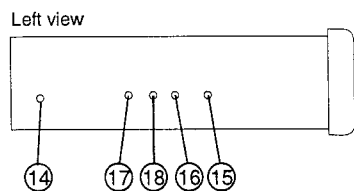
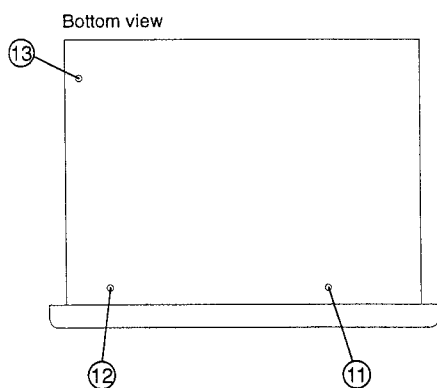
Remove the fixed front (screws 2 and 3)



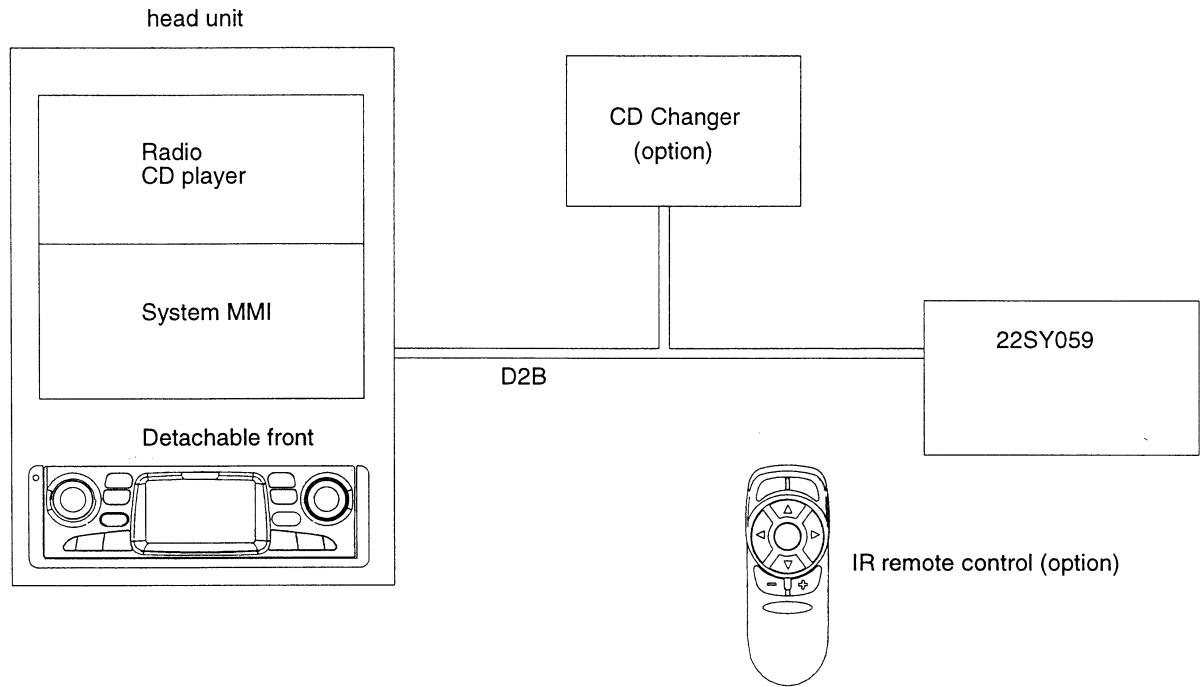
Disconnect the **A** connector
Remove the deck (screws 4,5,6 and 7)
Disconnect the **B** connector



Remove the antenna plug bracket (screws 8)
Remove the main PWB (screws 9 to 17)



This sets can be used either as a single radio part, or can be included in a system.
The system is composed of:
The head unit 22RC759/00
A Carin MK2i navigation 22SY059
An optional CD Changer
An optional infrared remote control



This Service Manual concerns only the set 22RC759/00.

TECHNICAL DATA

GENERAL

Power supply	:10.8 to 15.6V DC
Dimensions	:180x150x51 mm
Front	: Full detachable
Security code	: No
Blinking LED	: Yes
Quiescent current (at 12.6V)	: <3mA (with clock and blinking LED)

RADIO

LW	: 144-288 KHz - steps Manual / Search : 1 KHz
MW (Europe)	: 531-1629 KHz - steps Manual / Search : 1 / 9 KHz
MW (USA)	: 530-1710 KHz - steps Manual / Search : 1 / 10 KHz
SW	: 5.95-6.25 MHz - steps Manual / Search : 1 KHz
FM (Europe) X2	: 87.5-108 MHz - steps Manual / Search : 50 / 50KHz
FM (USA) X2	: 87.9-107.9 MHz - steps Manual / Search : 50 / 50KHz
IF-AM (1/2)	: 10.7 MHz / 450 KHz
IF-FM (1/2)	: 72.2 MHz / 10.7 MHz
Sensitivity 26dB S/N	: 20µV (LW)
	: 14µV (MW)
	: 14µV (SW)
	: 3µV (FM)
Limitation α-3dB	: 6to 10µV

CASSETTE

Cassette mechanism	:SCA-R 3.1
Number of tracks	:2x2
Tape speed	:4.76 cm/sec
Wow and flutter	:≤ 0.25% (+10° to +45°)
Crosstalk	:> 35dB

ESD



WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

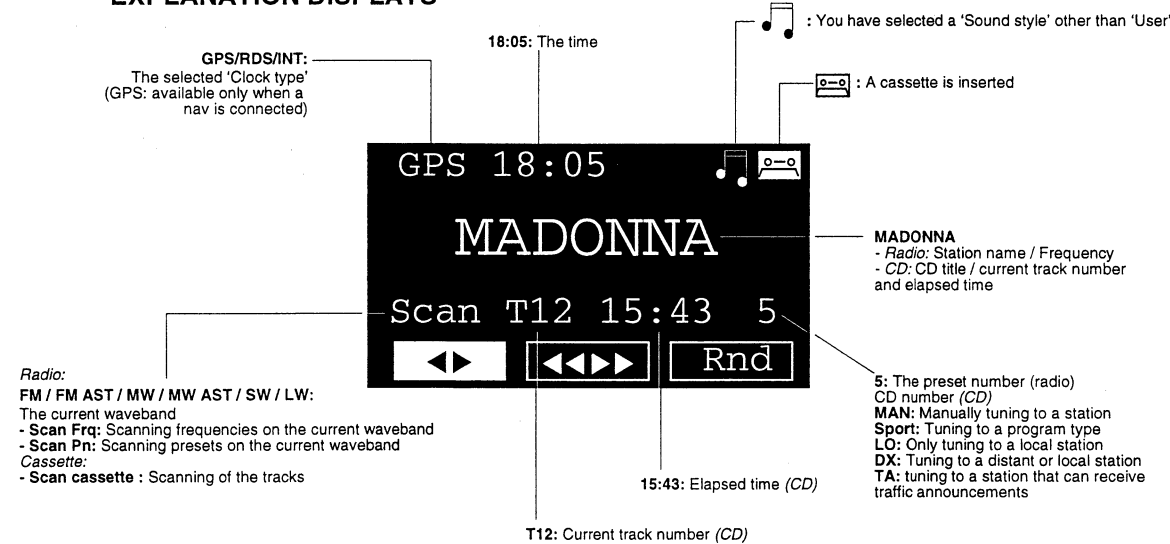
ESD equipment available:

Anti-static table mat large 100X650X1.25mm	4822 466 10953
small 600X650X1.25mm	4822 466 10958
Connection box (1Mohm)	4822 395 10223
Extendible cable (to connect wrist band to connection box)	4822 320 11307
Connecting cable (to connect table mat to connection box)	4822 320 11305
Earth cable (to connect any product to mat or box)	4822 320 11308
Complete kit ESD3 (combining all above products)	4822 310 10671
wristband tester	4822 344 13999

22RC759/00

22RC759/00

EXPLANATION DISPLAYS

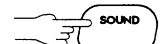


MENU OPERATION

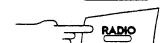
- **Menu on/off:** Enter/leave one of the following menus.



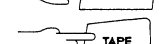
- **Information menu**



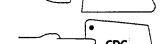
- **Sound menu**



- **Radio menu** (when already in radio mode)



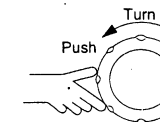
- **Cassette menu** (when already in cassette mode)



- **CD changer menu** (when already in CD changer mode)



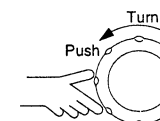
- **Navigation menu** (when a Nav is connected)



- **Selection:** Place the cursor on the desired option/character.

The following indications are given on screen:

- **OPTION** : Option in dotted characters cannot be selected.
- **Arrows** : Arrows in front of options indicate that more options are available than displayed.
- **✓** : A tick shows that the function is activated.



- **Confirmation:** Confirm the selected option/character.

The following menu functions can also be available:

- **'QUIT' and 'RETURN':** return to the previous display. 'QUIT' is often available when placing the cursor on the menu title.

INFORMATION MENU

Traffic: Activate to listen to Traffic Announcement (TA) when broadcast (even if you play a cassette or mute the set). The set may also receive traffic announcements from other stations.

- *If you hear an error beep:* The radio is not already tuned to a station enabling the reception of traffic announcements. The radio automatically searches until it finds another station.

- *If you hear error beeps at repeated intervals:* You are in an area where no traffic information is broadcast. Deactivate the 'Traffic' function or tune to a different station.

Also press the button to stop listening to a particular traffic announcement (the 'Traffic' function remains active).

News: Activate to listen to news bulletins when broadcast (even if you play a cassette or mute the set). The set may also receive news bulletins from other stations. Traffic announcements may interrupt news bulletins. 'News' is not yet implemented in all countries.

Also press the button to stop listening to a particular news bulletin (the 'News' function remains active).

Announcement level: Adjust the volume difference of traffic announcements, news bulletins and alarm messages.

SOUND MENU

Loudness: Activate to amplify the low and high notes at low volume settings.

Sound settings: Adjust the bass (low notes), treble (high notes), balance (left-right) and fader (rear-front). The bass and treble settings are stored independently for each sound source.

Sound style: Choose one of the predefined sound styles. Select 'User' to maintain your own bass and treble settings. The sound style is stored independently for each sound source.

Sound reset: Switch the loudness off, reset the sound settings to their mid-positions and adjust the 'Sound style' to 'User'.

► **Sound setup:** To adjust one of the following functions.

SDVC (Speed-dependent volume control, if a navigation system is connected): Adjust the volume compensation linked to your driving speed.

Leveller: Activate to adjust the volume of each sound source to the same level.

Loudness low: Adjust the amplification of the low notes in loudness.

Loudness high: Adjust the amplification of the high notes in loudness.

Bass frequency: Select the average frequency of low notes.

Treble frequency: Select the average frequency of high notes.

► **Initialization:** See 'INITIALIZATION SUBMENU'.

RADIO MENU

RDS Memo (only on FM): Activate update the list of station names you can tune to alphabetically. You hear a beep. Wait until the set has finished storing the RDS stations.

Autostore (only on FM and MW): Activate to automatically store 10 FM stations on the FM AST band or 10 MW stations on the MW AST band. You hear a beep. Wait until the set has finished storing the strongest stations.

Scan: Activate to briefly listen to each station or preset on the current waveband. Also press the button to deactivate this function when you hear a station you like.

Band: Select the desired waveband.

AF retuning (only on FM): Activate to maintain the best possible reception. The set continuously checks a list of Alternative Frequencies (AF) for the tuned radio station and automatically select the best frequency for you. Only deactivate this function when you hear short sound interruptions or when the set automatically tunes to an unwanted station.

Manual tuning: Activate to manually tune to a frequency when you can not find the desired station using automatic tuning.

Store preset: Store the station you are listening to as a preset. Then select its position in the preset list. When storing an FM station, the 'AF retuning' (on/off) is stored on the preset.

Recall program (only on FM): Select the name of the station you want to listen to from the list.

Recall preset: Choose the preset you want to listen to from the list.

PTY search (only on FM): Tune to a station according to the type of programme (PTY) being broadcast. Select the programme type from the list. *PTY is not yet implemented in all countries.*

► **Radio setup:** Adjust one of the following functions.

Search level: Select 'LO' if you *only* wish to search local stations (strong stations) when tuning to a frequency automatically. Select 'DX' to search for distant stations too.

Tuner grid: Select the tuner according to European or American standards.

Scan type: Choose between a frequency or a preset scan.

► **Initialization:** See 'INITIALIZATION SUBMENU'


———— **CASSETTE PLAYER MENU** ————

Scan: Activate to listen to the beginning of each track. Also press the same button to deactivate this function when you hear a track you like.

Dolby B: Activate when the cassette has been recorded using the Dolby B Noise Reduction System.

► **Initialization:** See 'INITIALIZATION SUBMENU'

———— **CD CHANGER MENU** ————

Scan: Activate to listen to the beginning of each track. Also press the  button to deactivate this function when you hear a track you like.

Random: Activate to play the tracks on the CD in random order.

Repeat track: Activate to replay your favourite track.

Select CD: Select the desired CD from the list.

CD title: Assign a name to the CD you are listening to, with a maximum of 13 characters. If the memory containing 50 titles is full, select a title you want to delete before entering the new title.

CD changer setup: Adjust one of the following functions.

Compression: Activate to reduce the volume of loud sections and increase the volume at quiet sections.

Compression rate: Adjust the level of volume reduction/increase when the compression is activated.

CD access: Choose whether you wish to select the CD number or the CD title from the 'Select CD' menu.

► **Initialization:** See 'INITIALIZATION SUBMENU'

———— **INITIALIZATION SUBMENU** ————

Language (if no navigation system is connected): Choose the language of the display readings.

Telephone: Select 'MUTE' to automatically interrupt the set's sound output when using your car phone. Select 'IN' when you also wish to amplify the received voice through the car speakers. Select 'NONE' if no car phone is connected to the set.

Telephone signal: Adjust according to your telephone mute signal ('LOW' in most cases).

Beep type: Select the type of confirmation beeps.

Guidance level (if navigation system is connected): Adjust the volume difference of the spoken guidance messages.

► **Clock settings:** To adjust the time.

Clock type: Select an internal clock (INT) or a clock which is automatically updated via RDS or via GPS (only if a navigation system is connected).

Clock format: Select the desired clock format.

Hour (if an internal clock type): Adjust the hours.

Minute (if an internal clock type): Adjust the minutes.

Summer time (if a GPS clock type): Add/subtract an hour.

Timezone (if a GPS clock type): Determine the time difference with London Greenwich Mean Time.

Scan time: Select how many minutes the set scans one station or track.

On-off logic: Activate to limit the use of the set to one hour after you have removed the car ignition key.

Warning light: Activate to switch on the flashing red light when the detachable front is removed.

Contrast: Adjust the contrast of the display.

Loudspeaker test: Test the loudspeakers connections and their positioning. Switch the set off to end the test session.

Check and Alignment

For all measurements, please refer to the manual “General Check & Alignment procedures for Car Systems” 4822 725 25456, unless otherwise stated.

Current and voltage

1) SET OFF (A6 not connected)

SET OFF	Voltage	Current +Acc ON	Current +Acc OFF	Supply µP 560 pin 14	supply µP XA pin 17	V_LOW pin 4- 74HC251
Acc Supply	+12.6V	< 2mA		4. 7V	5V	5V
Perm Supply	+12.6V	< 2mA	<3 mA Led is ON - Front is out			

2) SET ON (A6 not connected)

Reset µP 560 pin 30	Reset µP XA pin 4	5V supply µP XA pin 17	5V supply µP 560 pin 14	V_LOW 74HC251 pin 4	5V Switch mode pin 2	8.5V LF85CDT pin 3	EEprom supply pin 8
0V	5V	5V	5V	5V	5.3V	8.5V	5V

Reference oscillator frequencies (to be measured via a X10 probe)

device	MSM 6307	83CE560	P51XAG3	SAA7701	SAA7366T	SAA1305T
pin	24 & 25	51 & 52	14 & 15	63 & 64	4	16 & 17
frequency	6 MHz 0.5%	16 MHz 0.5%	24MHz 0.5%	36.860 MHz 60 ppm	11.2896 MHz 60 ppm	32.768KHz 60 ppm

Checks:

1) FM

FM mute	98 MHz 1mV	output at load resistor R & L = 775 mV = REF
	no signal	output should be < -24 dB (REF - 24 dB)

Demodulated FM level	98 MHz	215 mV 2dB
	Input	MPX Output of IC96 (pin 10)

Limiting point α-3dB	FM 98MHz	1mV 400Hz	6µV	4µV	9µV
	RANGE	INPUT	NOMINAL	MIN	MAX

Search levels	Input	Dx: 10µV < X < 20µV Local : 190µV < X < 290µV
	98 MHz	

2) AM

Demodulated AM level	1053KHz - m=30% - 1KHz	230 mV 2dB
	Input	Audio output of IC96 (pin 19)

Sensivity at 26dB S/N	162KHz	m = 30%	400Hz	< 38µV
	1053KHz			< 30µV
	6100KHz			<25µV

Search levels	Input	Dx: 10µV < X < 20µV Local : 35µV < X < 100µV
	1053KHz	

No alignment is needed for radio part. The tuner module IC96 is pre-aligned in the factory. Dolby alignment, crosstalk alignment and FM DC level curve learning procedure are performed via a special equipment and software, not yet available in service. Some values are stored in the EEPROM. The EEPROM available in service will contain mean values, that could affect slightly the performance of the set. It is the only solution until further notice. Consequence: If you change the tuner module, change also the EEPROM.

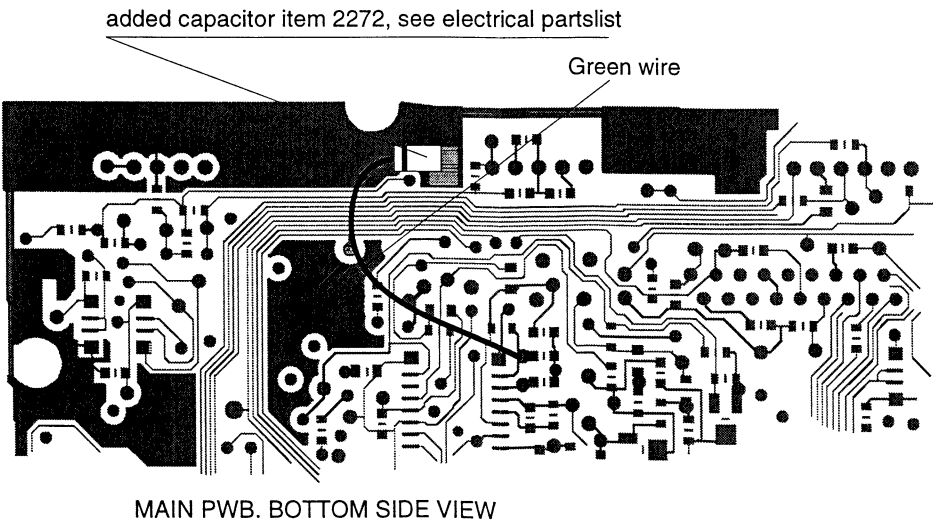
Tape part

Use test cassette SBC420 4822 397 30071 unless otherwise stated.

Tape speed and flutter: Use 3.15KHz test tone	Supply voltage	Tape speed	Flutter (wtd)
	10.8 - 15.6 V	4.76cm/s +3% -1%	< 0.35%

Crosstalk : use 1KHz 0dB crosstalk signal	< -30dB at speakers output R & L
---	----------------------------------

In order to prevent a bus noise in CD changer mode, a capacitor is added manually on the bottom side. See the drawing below.



Test modes

-Functional test - This test checks the functionality of the user inputs (switches, rotary switches, infra red remote control).

Entering the test:
Press Nav + Sound + Power keys
The buttons illumination led's are switched on sequentially every 250 ms. The day/night output is switched on and off every second.
A start message is displayed:

EJECT KEY TEST
SLIDING DOOR

Open the front by pushing the release button, then press eject key, and close the front again.
The display shows:

KEYBOARD TEST

Press all the buttons of the keyboard. A specific message appears at each key pressed, e.g.:

MUTE KEY

When all the key are tested, the display shows:

KEYBOARD OK
SOUND ROTARY

Turn the volume button in both directions
The display shows:

KEYBOARD OK
<<SOUND ROTARY>>
MENU ROTARY

Turn the menu button in both directions
The display shows:

KEYBOARD OK
<<SOUND ROTARY>>
<<MENU ROTARY>>
RC5

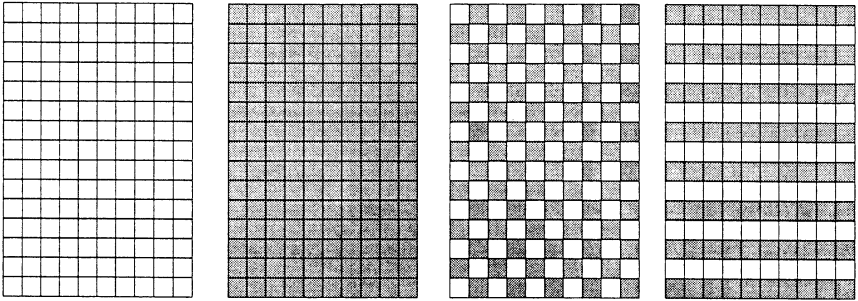
Press Enter switch of the remote control
The display shows:

KEYBOARD OK
<<SOUND ROTARY>>
<<MENU ROTARY>>
RC5 >> >>
PRESS ANY KEY->T7

If this test is successful, pressing any key enters the test of the Hardware/Software interface between the processor and the LCD driver, as well between LCD driver and LCD, and functional test of illumination.
The display shows sequentially different patterns, the sequence is done by pressing the CD switch of the keyboard.
At any time, the dimming test can be executed by masking the light sensor (under the 'DISPLAY' key).

To exit this test, switch Off the set.

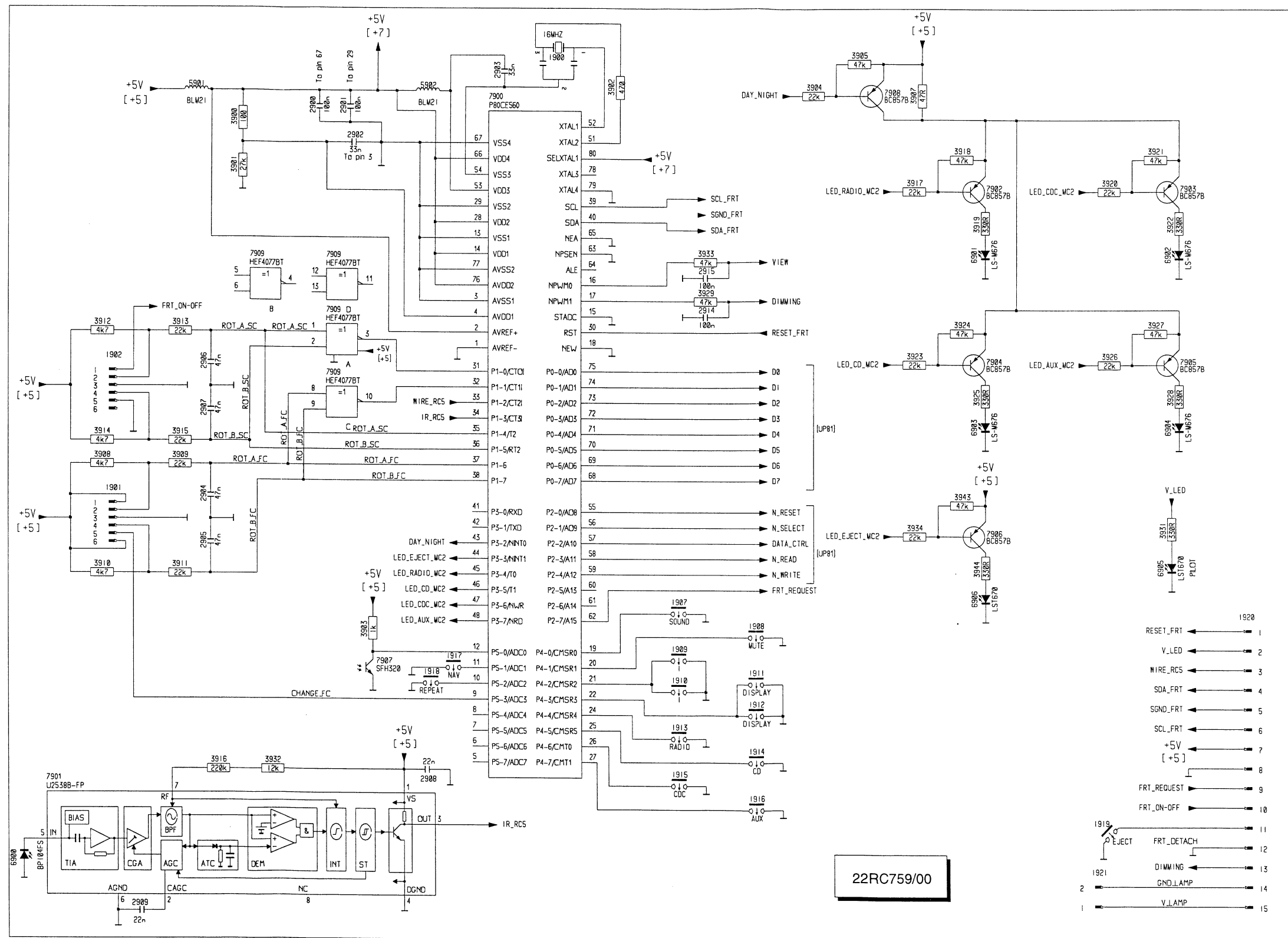
Patterns:



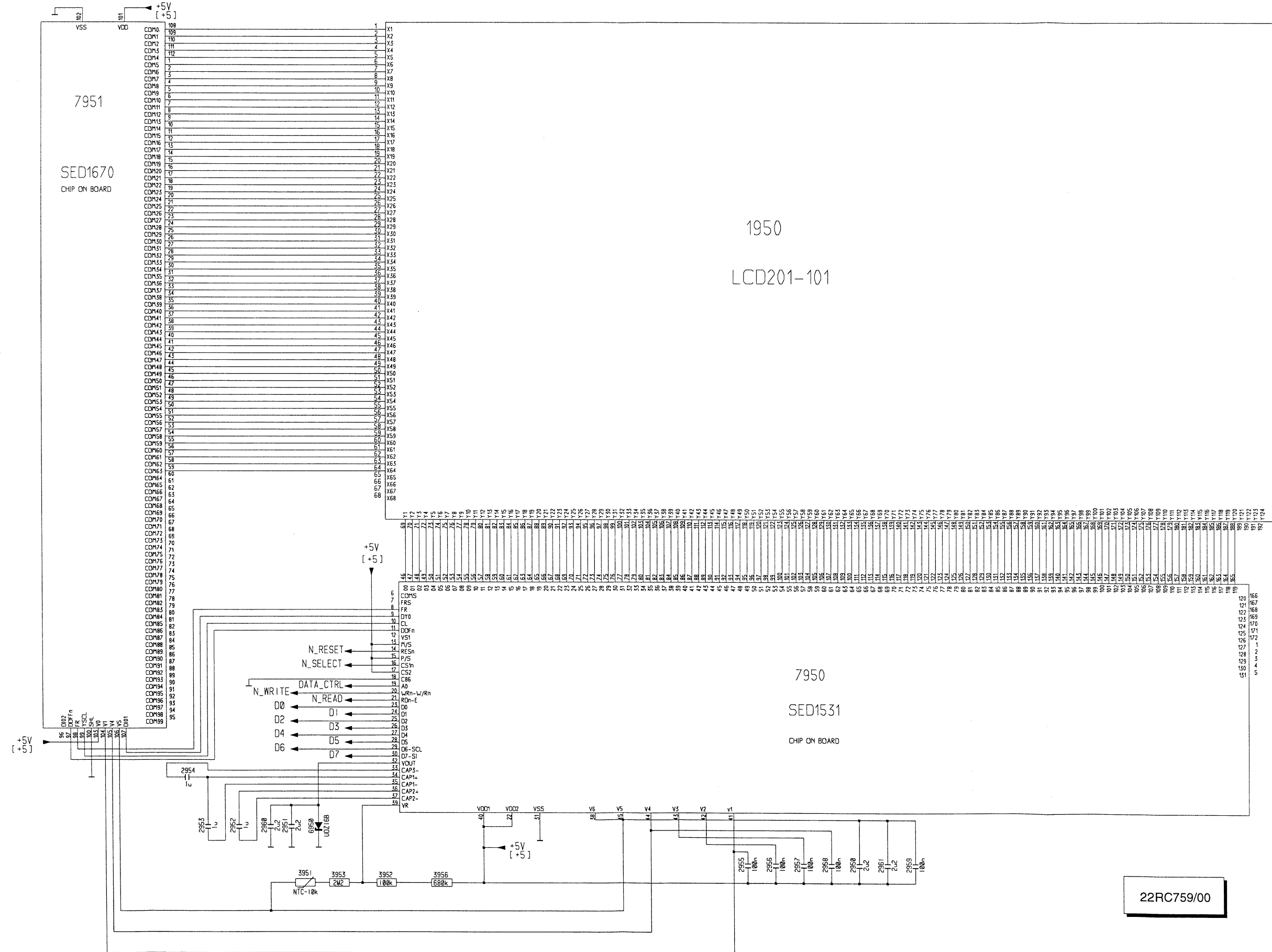
- Service test:
Press Info+ Display+ Power keys
The following cycle is executed continuously:
- Display the same patterns as the previous test, each pattern being displayed during 5 sec.
 - Display the real time calculated check-sum of each processor, diring 5 sec.
 - Display the soft identity of each processor during 5 sec.
 - Display the version of each processor during 5 sec.

To exit this test, switch Off the set.

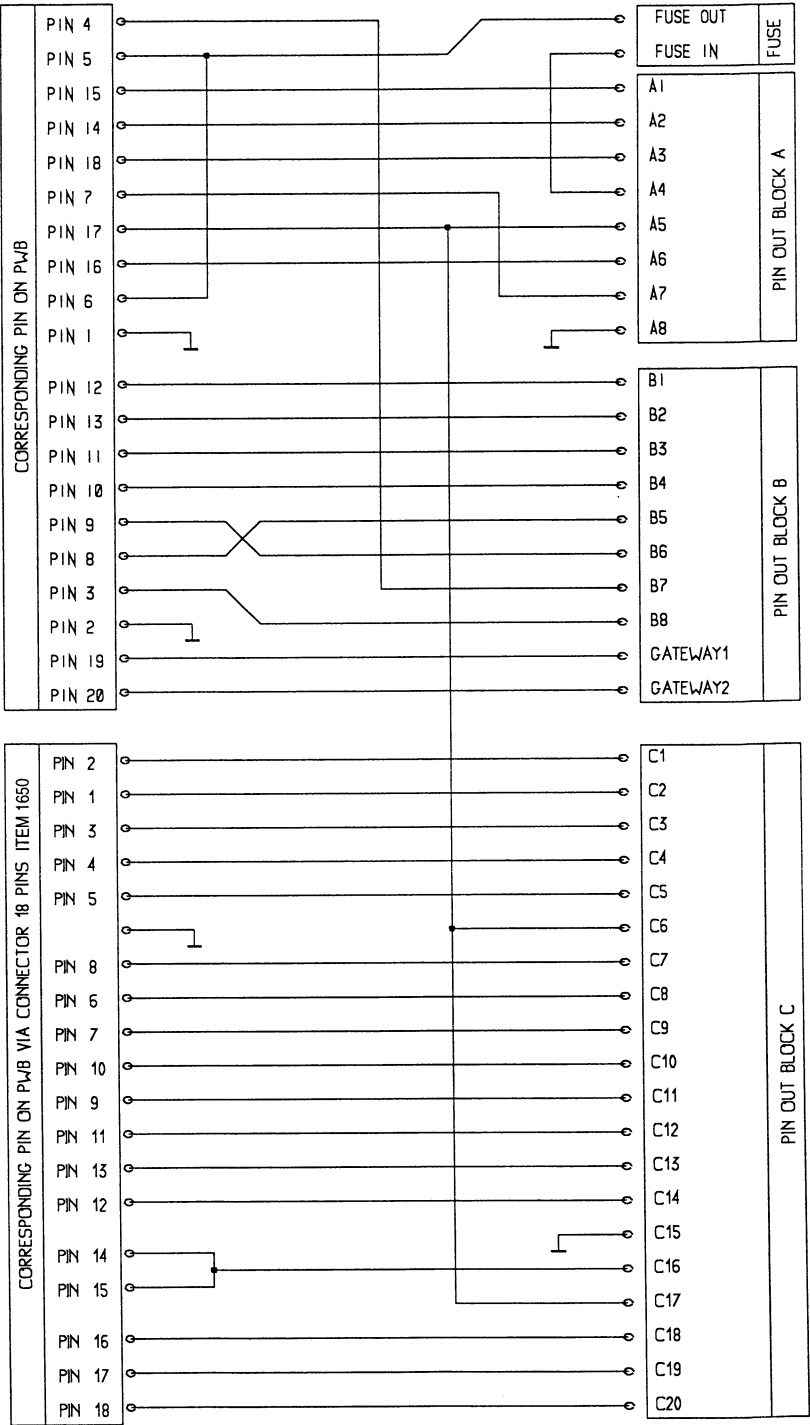
WARNING: The front schematic diagrams are given for information only. The complete front itself is a service part, not repairable.



WARNING: The front schematic diagrams are given for information only. The complete front itself is a service part, not repairable.



CONNECTOR BLOCK SCHEMATIC DIAGRAM



SAA1305T

Short description

The SAA1305T is an on/off logic IC which can be used in a car radio to interface between a microprocessor and various input signals such as: Ignition, low supply detection, on/off key, external control signals. It contains 8 inputs with accurate schmitt triggers and clamp circuits. The main function of this IC is an intelligent I/O expander with 2 modes of operation:

- 1- Normal I/O expander. The uP (master) is running, SAA1305T acts as a slave.
- 2- Sleep mode of set: the uP is stopped, SAA1305T acts like a master. During an event, the uP is awakened.

The communication with the IC is done via I2C bus.

Extra functions of the SAA1305T are:

-) Blinking LED generator
-) One day clock
-) Watch dog mode

Features

- 8 inputs with accurate schmitt triggers and clamp circuits.
- Ultra low quiescent current.
- Reset generator circuit.
- Changed info output.
- On/off output for controlling a regulator IC which supplies the uP.
- 32KHz RC oscillator and/or a 32KHz X-tal oscillator.
- No delayed reset needed (start-up behaviour oscillator fixed by internal logic)
- Watch dog function.
- Blinking LED oscillator with drive circuit for LED.
- Clock function.

Pinning:

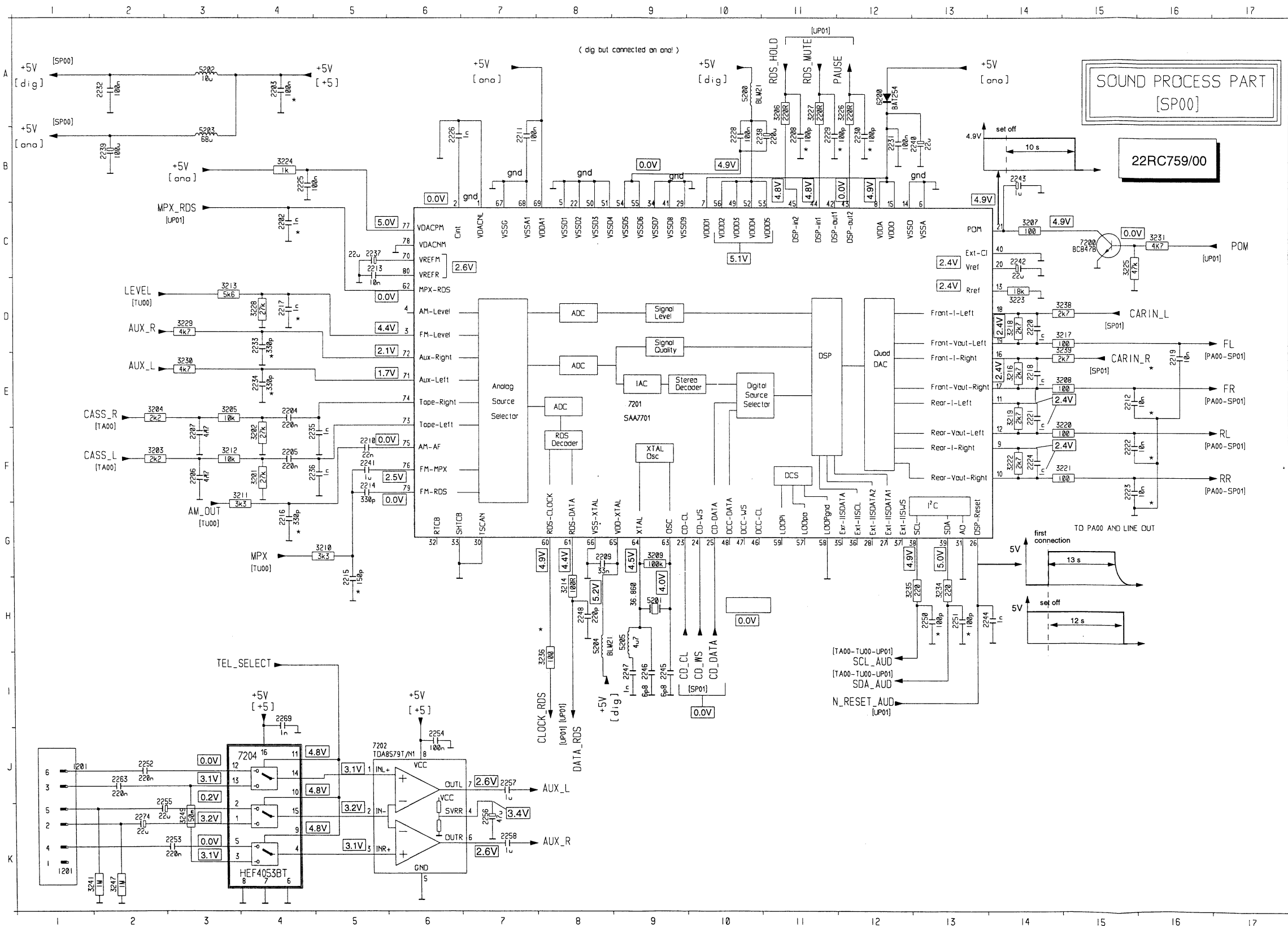
PIN	DESCRIPTION	FUNCTIONAL DESCRIPTION
1 to 8	Input 0 to input 7	All 8 inputs generate resets on pin RESET-PULSE and a low level on pin CHANGE-INFO
9	ON/OFF	Output signal for switched power supply version or A/D supply from uC
10	RESET-IN	Power On or system reset for the IC
11	WATCH-TRIGGER	Input pin for trigger signal from the uC for the hardware watchdog
12	TIMER-START	Trigger input for a 250ms timer (V_LOW timer)
13	TEST-PIN	test pin. This pin must be connected to ground
14	RC-OUT	In/Outputs for the 32.768 KHz RC oscillator
15	RC-IN	
16	X-TAL OUT	In/Outputs for the 32.768 KHz oscillator
17	X-TAL IN	
18	SDA	I2C serial connection to the uC for INPU/clock reading and device control
19	VSS	
20	SCL	I2C serial connection to the uC for INPU/clock reading and device control
21	VDD	
22	LES-OUTPUT	Drives a LED up to 20mA (switch to 5V supply)
23	RESET-PULSE	Reset output (pulse)
24	CHANGE-INFO	A change on any none masked INPUT, a device reset, an alarm or V_LOW timer event, an oscillator fault or a failed I2C read sequence after a change info signal, a failed watchdog trigger sequence, results in a low on this output

A	1400	C 7
	1402	E15
	2402	C12
	2405	D15
	2406	D15
	2407	G10
	2409	D 6
	2410	G 8
	2411	D 4
	2412	D 8
B	2413	G 6
	2414	G 5
	2415	B 1
	2416	G 3
	2418	G 7
C	2419	D14
	2420	G 5
	2423	K 7
	2424	K 7
	2425	J14
D	3402	A14
	3404	C13
	3405	C14
	3406	E10
	3408	F 7
E	3411	F 3
	3412	F 2
	3430	C11
	3431	H 9
	3432	H 4
F	3433	H 4
	3462	J 4
	3463	J 4
	3464	J 4
	3465	I10
G	3466	I11
	3467	H11
	3470	I 1
	3471	H 1
	3472	G11
H	3473	F11
	3474	F 9
	3475	F 9
	3476	H 2
	3477	K 2
I	3478	F 9
	3479	G 9
	3480	K 3
	3485	J13
	3486	I13
J	3488	I14
	3489	I14
	5400	D16
	5402	K 6
	6401	D14
K	6402	E13
	6406	G11
	6407	F10
	6410	B14
	6413	K 2
	7401	G 6
	7402	H 5
	7404	B11
	7407	B 3
	7409	I11
	7410	G10
	7418	J15
	7430	D 5

A	1800	A 8	3840	F15
	1802	A16	3841	G15
	1803	K16	3842	J13
	2801	H12	3851	F 6
	2802	I11	3852	B 1
	2803	A16	3855	C 2
B	2805	C16	3858	I 2
	2806	D16	3859	C 2
	2807	H16	3862	F 1
	2808	F16	3863	F 3
	2809	E16	3864	F 3
	2810	F16	3865	G 6
C	2811	G16	3866	G 6
	2812	B16	3872	F 2
	2814	H16	3874	I 2
	2850	C 1	5800	I12
	2853	G 3	6803	D15
	2854	G 2	6804	C15
D	2856	C 6	6805	F15
	2857	F 6	6806	B11
	2858	C 6	6807	H15
	3812	I 8	6809	F15
	3815	J10	6810	G15
	3817	G11	6812	I 5
E	3818	I 9	6813	J 5
	3819	H10	6814	A15
	3820	A15	6815	H15
	3821	J 5	6850	B 1
	3822	H15	6852	G 3
	3823	A14	7418	H 9
F	3824	B14	7801	B15
	3825	B15	7802	I11
	3829	E15	7803	J10
	3830	D15	7804	A11
	3831	B15	7805	J10
	3832	E15	7820	J 5
G	3833	B13		
	3834	G15		
	3835	B12		
	3836	C13		
	3837	A11		
	3838	B11		

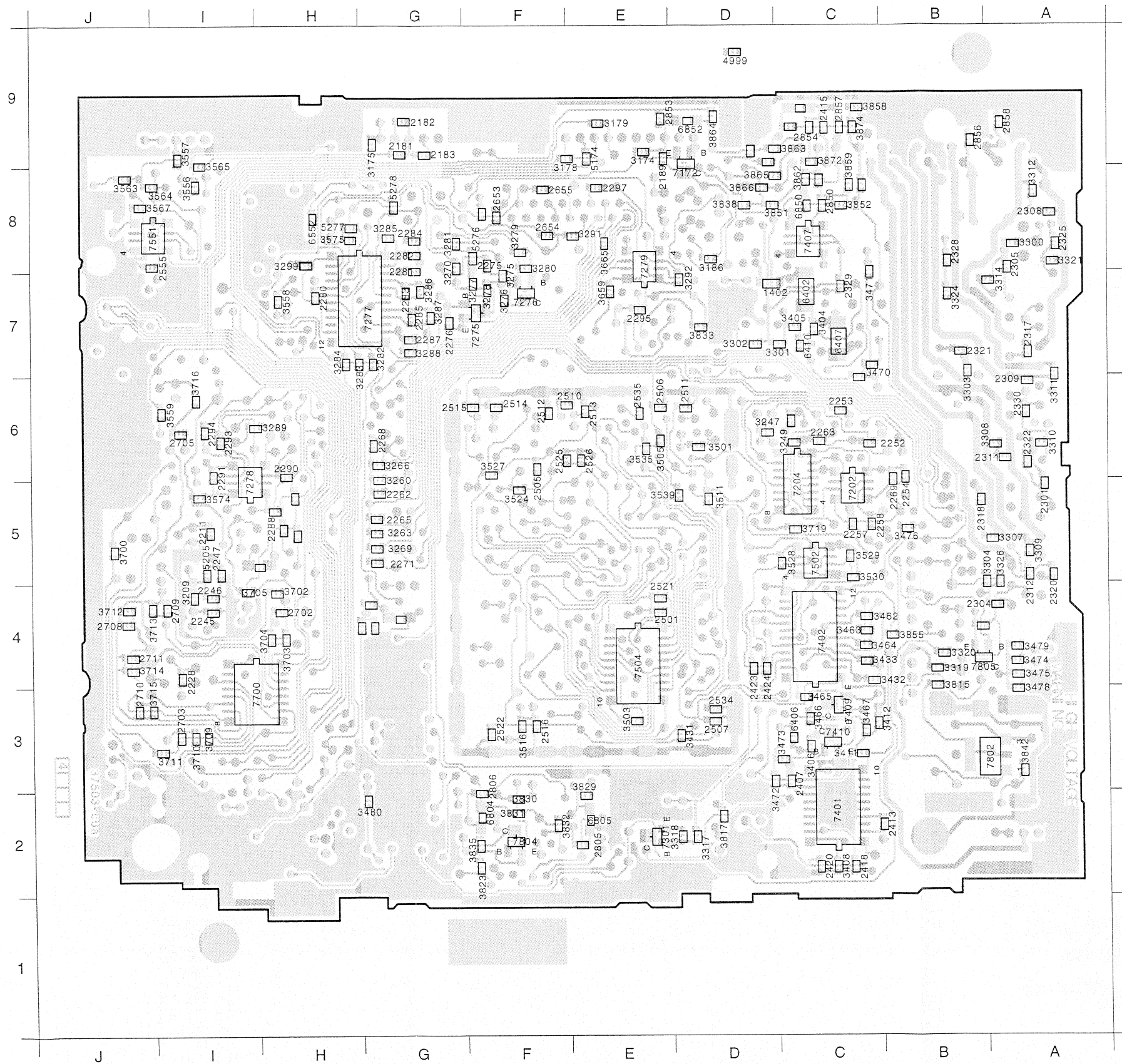


AM_OUT.....F3	CASS_R.....E2	FL.....D17	PAUSE.....A12	SCL_AUD.....I12
AUX_L.....E2/J7	CD_CL.....H9	FR.....E17	POM.....C17	SDA_AUD.....I12
AUX_R.....D2/K7	CD_DATA.....H10	LEVEL.....D2	RDS_HOLD.....A11	TEL_SELECT.....I4
CARIN_L.....D16	CD_WS.....H10	MPX.....G4	RDS_MUTE.....A11	
CARIN_R.....D17	CLOCK_RDS.....I8	MPX_RDS.....C3	RL.....F17	
CASS_L.....F1	DATA_RDS.....I8	N_RESET_AUD.....I12	RR.....F17	

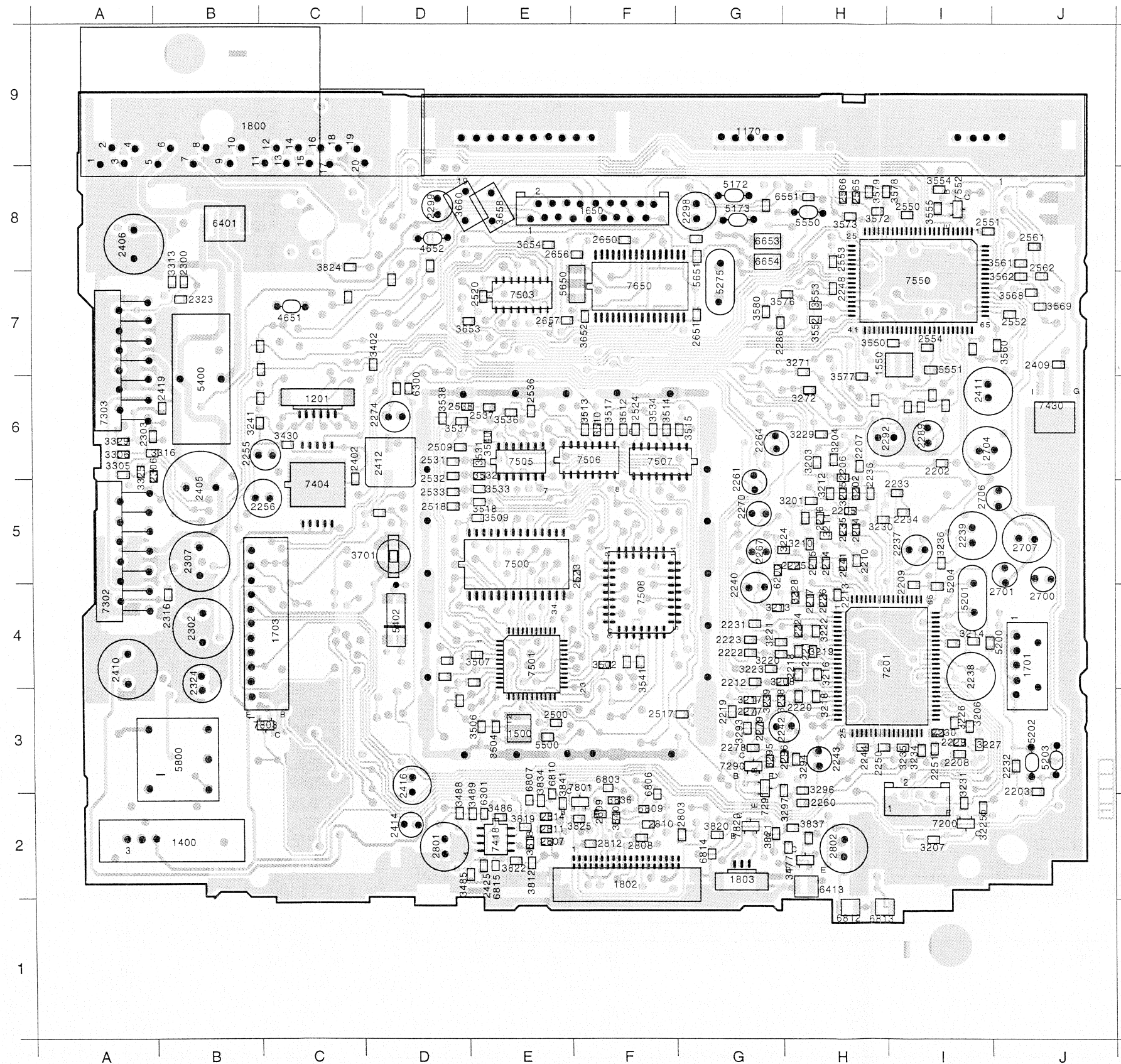


1201	K 1	3212	F 3
2202	C 4	3213	D 3
2203	A 4	3214	H 8
2204	E 4	3216	E14
2205	F 4	3217	D15
2206	F 3	3218	D14
2207	F 3	3219	E14
2208	B11	3220	E15
2209	G 8	3221	F15
2210	F 5	3222	F14
2211	B 7	3223	D14
2212	E15	3224	B 4
2213	C 5	3225	C15
2214	F 5	3226	A12
2215	H 5	3227	A11
2216	G 4	3228	D 4
2217	D 4	3229	D 3
2218	E14	3230	E 3
2219	E16	3231	C16
2220	D14	3234	H13
2221	E14	3235	H12
2222	F15	3236	I 8
2223	F15	3238	D15
2224	F14	3239	D15
2225	B 4	3241	K 1
2226	B 6	3247	K 2
2228	B10	3249	K 3
2229	B11	5200	A10
2230	B12	5201	H 9
2231	B12	5202	A 3
2232	A 2	5203	B 3
2233	D 4	5204	H 8
2234	E 4	5205	H 9
2235	F 5	6200	A12
2236	F 5	7200	C15
2237	C 5	7201	E 9
2238	B11	7202	J 5
2239	B 2	7204	J 4
2240	B13		
2241	F 5		
2242	C14		
2243	B14		
2244	H14		
2245	I 9		
2246	I 9		
2247	I 9		
2248	H 8		
2250	H13		
2251	H13		
2252	J 3		
2253	K 3		
2254	J 6		
2255	K 2		
2256	K 6		
2257	J 7		
2258	K 7		
2263	J 2		
2269	I 4		
2274	K 2		
3201	F 4		
3202	F 4		
3203	F 2		
3204	E 2		
3205	E 3		
3206	A11		
3207	C14		
3208	E15		
3209	G 9		
3210	G 5		
3211	F 4		

22RC759/00 PWB LAYOUT - BOTTOMSIDE VIEW

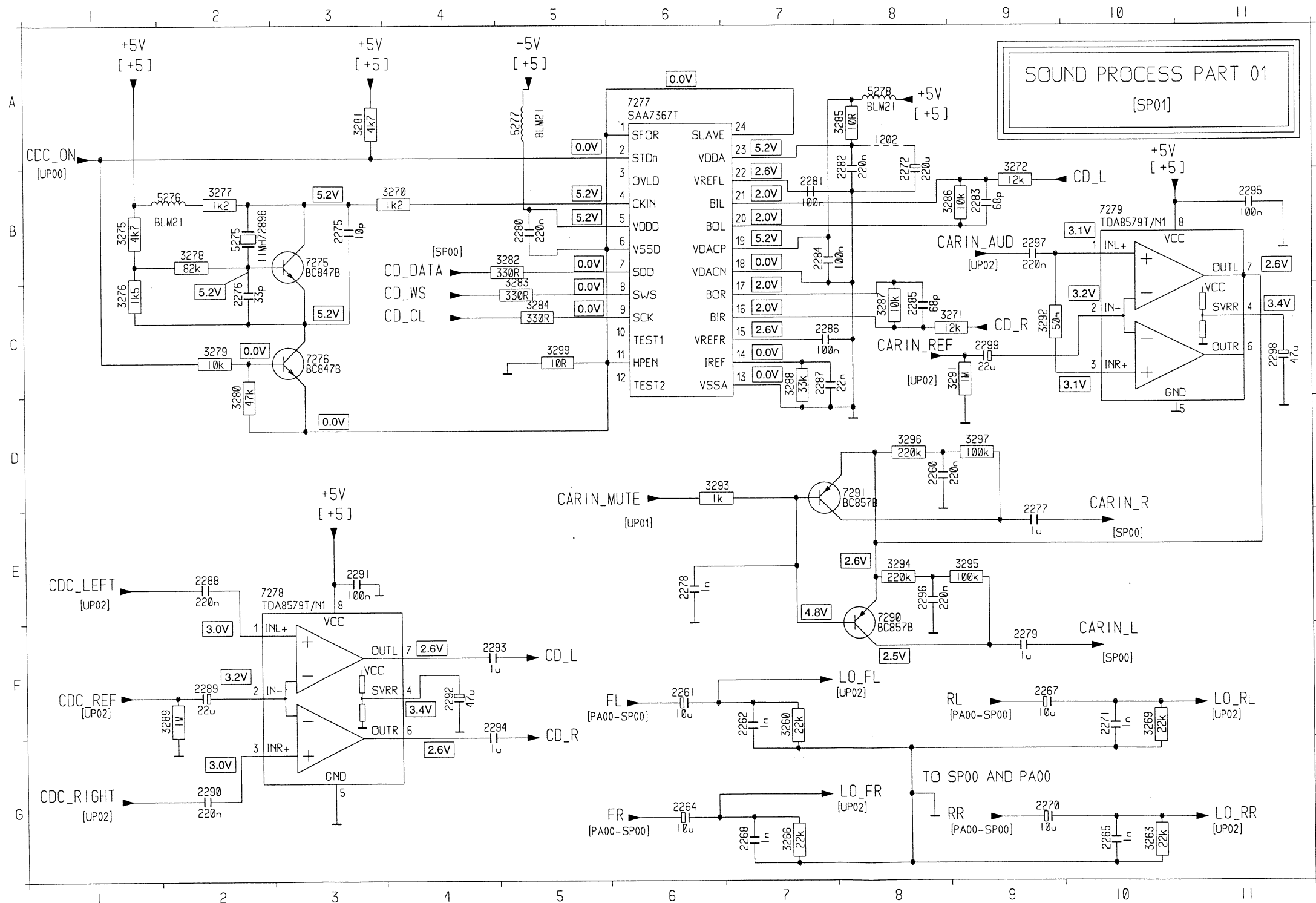


1402	D 7	2555	J 7	3433	C 3	3874	C 8
2181	G 8	2653	F 7	3462	C 3	4999	D 9
2182	G 8	2654	F 7	3463	C 3	5174	F 8
2183	G 8	2655	F 8	3464	C 3	5205	I 4
2189	E 8	2702	H 4	3465	C 3	5276	G 7
2211	I 4	2703	I 2	3466	C 3	5277	H 7
2228	I 3	2705	I 5	3467	C 2	5278	G 7
2245	I 4	2708	J 3	3470	C 6	6402	C 7
2246	I 4	2709	J 4	3471	C 7	6406	D 2
2247	I 4	2710	J 3	3472	D 2	6407	C 6
2252	C 5	2711	J 3	3473	D 2	6410	C 6
2253	C 5	2805	F 1	3474	A 3	6552	H 7
2254	B 5	2806	G 2	3475	A 3	6804	G 2
2257	C 4	2850	C 7	3476	B 4	6805	F 2
2258	C 4	2853	E 8	3478	A 3	6850	C 7
2262	H 5	2854	C 8	3479	A 3	6852	E 8
2263	C 5	2856	B 8	3480	H 2	7172	E 8
2265	H 4	2857	C 8	3501	D 5	7202	C 5
2268	H 5	2858	B 8	3503	E 2	7204	D 5
2269	C 5	3174	E 8	3505	E 5	7275	G 6
2271	H 4	3175	H 8	3511	D 5	7276	F 7
2275	F 7	3178	F 8	3516	F 2	7277	H 7
2276	G 6	3179	E 8	3524	F 5	7278	I 5
2280	H 7	3186	D 7	3527	F 5	7279	E 7
2281	G 7	3209	I 4	3528	D 4	7301	E 1
2282	G 7	3247	D 5	3529	C 4	7401	C 2
2283	G 7	3249	D 5	3530	C 4	7402	C 3
2284	G 7	3260	H 5	3535	E 5	7407	C 7
2285	G 6	3263	H 4	3539	E 5	7409	C 3
2287	G 6	3266	H 5	3556	I 8	7410	C 2
2288	I 5	3269	H 4	3557	I 8	7502	C 4
2290	H 5	3270	G 7	3558	H 7	7504	E 3
2291	I 5	3275	F 7	3559	J 5	7551	J 7
2293	I 5	3276	F 7	3563	J 8	7700	I 3
2294	I 5	3277	G 7	3564	J 8	7802	B 2
2295	E 6	3278	F 7	3565	I 8	7804	F 1
2297	E 8	3279	F 7	3567	J 7	7805	B 3
2301	A 5	3280	F 7	3574	I 5		
2304	B 4	3281	G 7	3575	H 7		
2305	A 7	3282	H 6	3579	E 7		
2308	A 7	3283	H 6	3665	E 7		
2309	A 6	3284	H 6	3700	J 4		
2311	B 5	3285	G 7	3702	I 4		
2312	A 4	3286	G 7	3703	H 3		
2317	A 6	3287	G 6	3704	I 3		
2318	B 5	3288	G 6	3705	I 4		
2320	A 4	3289	I 5	3709	I 2		
2321	B 6	3291	F 7	3710	I 2		
2322	A 5	3292	E 7	3711	J 2		
2325	A 7	3299	H 7	3712	J 4		
2328	B 7	3300	A 7	3713	J 4		
2329	C 7	3301	D 6	3714	J 3		
2330	A 5	3302	D 6	3715	J 3		
2407	D 2	3303	B 6	3716	I 6		
2413	C 1	3304	B 4	3719	D 4		
2415	C 8	3307	B 4	3815	B 3		
2418	C 1	3308	B 5	3817	D 2		
2420	C 1	3309	A 4	3823	G 1		
2423	D 3	3310	A 5	3829	F 2		
2424	D 3	3311	A 6	3830	F 2		
2501	E 4	3312	A 8	3831	F 2		
2505	F 5	3314	B 7	3832	F 1		
2506	E 6	3317	D 1	3833	D 6		
2507	D 2	3318	E 1	3835	G 1		
2510	F 6	3319	B 3	3838	D 7		
2511	E 6	3320	B 3	3842	A 2		
2512	F 5	3321	A 7	3851	D 7		
2513	F 5	3324	B 7	3852	C 7		
2514	F 6	3326	B 4	3855	C 3		
2515	G 6	3404	C 6	3858	C 8		
2516	F 2	3405	D 6	3859	C 8		
2521	E 4	3406	C 2	3862	C 8		
2522	F 2	3408	C 1	3863	D 8		
2525	F 5	3411	C 2	3864	D 8		
2526	F 5	3412	C 2	3865	D 8		
2534	D 3	3431	E 2	3866	D 8		
2535	E 5	3432	C 3	3872	C 8		



1170	G 8	2323	B 7	3226	I 2	3818	E 1
1201	C 6	2324	B 3	3227	I 2	3819	E 2
1400	B 1	2402	C 5	3228	H 4	3820	G 1
1500	E 2	2405	B 5	3229	H 5	3821	G 1
1550	I 6	2406	A 7	3230	H 4	3822	E 1
1650	F 7	2409	J 6	3231	I 2	3824	C 7
1701	J 3	2410	A 3	3234	I 2	3825	F 2
1703	B 3	2411	I 6	3235	I 2	3834	E 2
1800	B 8	2412	D 5	3236	I 4	3836	F 2
1802	F 1	2414	D 2	3238	G 3	3837	H 1
1803	G 1	2416	D 2	3239	G 3	3840	F 2
2202	I 5	2419	B 6	3241	C 5	3841	E 2
2203	J 2	2425	E 1	3271	H 6	4651	C 6
2204	H 4	2500	E 2	3272	H 6	4652	D 7
2205	H 5	2509	D 5	3293	G 2	5172	G 8
2206	H 5	2517	G 3	3294	H 2	5173	G 7
2207	H 5	2518	D 5	3295	G 2	5200	I 3
2208	I 2	2520	E 7	3296	H 2	5201	I 4
2209	I 4	2523	F 4	3297	H 2	5202	J 2
2210	H 4	2524	F 5	3305	A 5	5203	J 2
2212	G 3	2531	D 5	3306	A 5	5204	I 4
2213	H 4	2532	D 5	3313	B 7	5275	G 7
2214	H 4	2533	D 5	3316	A 5	5400	B 6
2215	H 4	2536	E 5	3325	A 5	5402	D 3
2216	H 4	2537	E 6	3329	A 5	5500	E 2
2217	H 4	2538	D 6	3402	D 6	5550	H 7
2218	H 3	2550	I 7	3430	C 5	5551	I 6
2219	G 3	2551	I 7	3477	H 1	5650	F 7
2220	H 3	2552	J 6	3485	E 1	5651	G 7
2221	H 3	2553	H 7	3486	E 2	5800	B 2
2222	G 3	2554	I 6	3488	D 2	6200	G 4
2223	G 3	2561	J 7	3489	E 2	6300	D 6
2224	H 3	2562	J 7	3502	F 3	6301	E 2
2225	H 4	2565	H 8	3504	E 2	6401	B 7
2226	H 4	2566	H 8	3506	E 2	6413	H 1
2229	I 2	2650	F 7	3507	E 3	6551	H 8
2230	I 2	2651	G 6	3509	E 4	6653	G 7
2231	G 3	2656	F 7	3510	F 5	6654	G 7
2232	J 2	2657	E 6	3512	F 5	6803	F 2
2233	I 5	2700	J 4	3513	F 5	6806	F 2
2234	I 5	2701	J 4	3514	F 5	6807	E 2
2235	H 4	2704	I 5	3515	G 5	6809	F 2
2236	H 5	2706	J 5	3517	F 5	6810	E 2
2237	I 4	2707	J 4	3518	E 5	6812	H 1
2238	I 3	2801	D 1	3531	E 5	6813	H 1
2239	I 4	2802	H 1	3532	E 5	6814	G 1
2240	G 4	2803	G 1	3533	E 5	6815	E 1
2241	H 4	2807	E 1	3534	F 5	7200	I 2
2242	H 2	2808	F 1	3536	E 5	7201	H 3
2243	H 2	2809	F 2	3537	D 5	7290	G 2
2244	H 2	2810	F 2	3538	D 5	7291	G 2
2248	H 7	2811	E 1	3540	E 5	7302	A 4
2250	H 2	2812	F 1	3541	F 3	7303	A 6
2251	I 2	2814	E 2	3550	I 6	7404	C 5
2255	C 5	3201	H 5	3552	H 6	7418	E 1
2256	C 5	3202	H 5	3553	H 6	7430	J 5
2260	H 2	3203	H 5	3554	I 8	7500	E 4
2261	G 5	3204	H 5	3555	I 7	7501	E 3
2264	G 5	3205	H 5	3560	J 6	7503	E 7
2267	G 4	3206	I 2	3561	J 7	7505	E 5
2270	G 4	3207	I 1	3562	J 7	7506	F 5
2274	D 5	3208	G 3	3568	J 7	7507	F 5
2277	G 3	3210	H 4	3569	J 6	7508	F 4
2278	G 2	3211	H 4	3572	H 7	7550	I 7
2279	G 2	3212	H 5	3573	H 7	7552	I 7
2286	G 6	3213	G 4	3576	H 7	7650	F 7
2289	I 5	3214	I 3	3577	H 6	7801	F 2
2292	H 5	3216	H 3	3578	H 8	7803	C 2
2296	H 2	3217	G 3	3579	H 8	7820	G 2
2298	G 7	3218	H 3	3580	G 6		
2299	D 7	3219	H 3	3652	F 6		
2300	B 7	3220	G 3	3653	E 6		
2302	B 3	3221	G 3	3654	E 7		
2303	A 5	3222	H 3	3658	E 7		
2306	A 5	3223	G 3	3660	D 7		
2307	B 4	3224	H 4	3701	D 4		
2316	B 4	3225	I 2	3812	E 1		

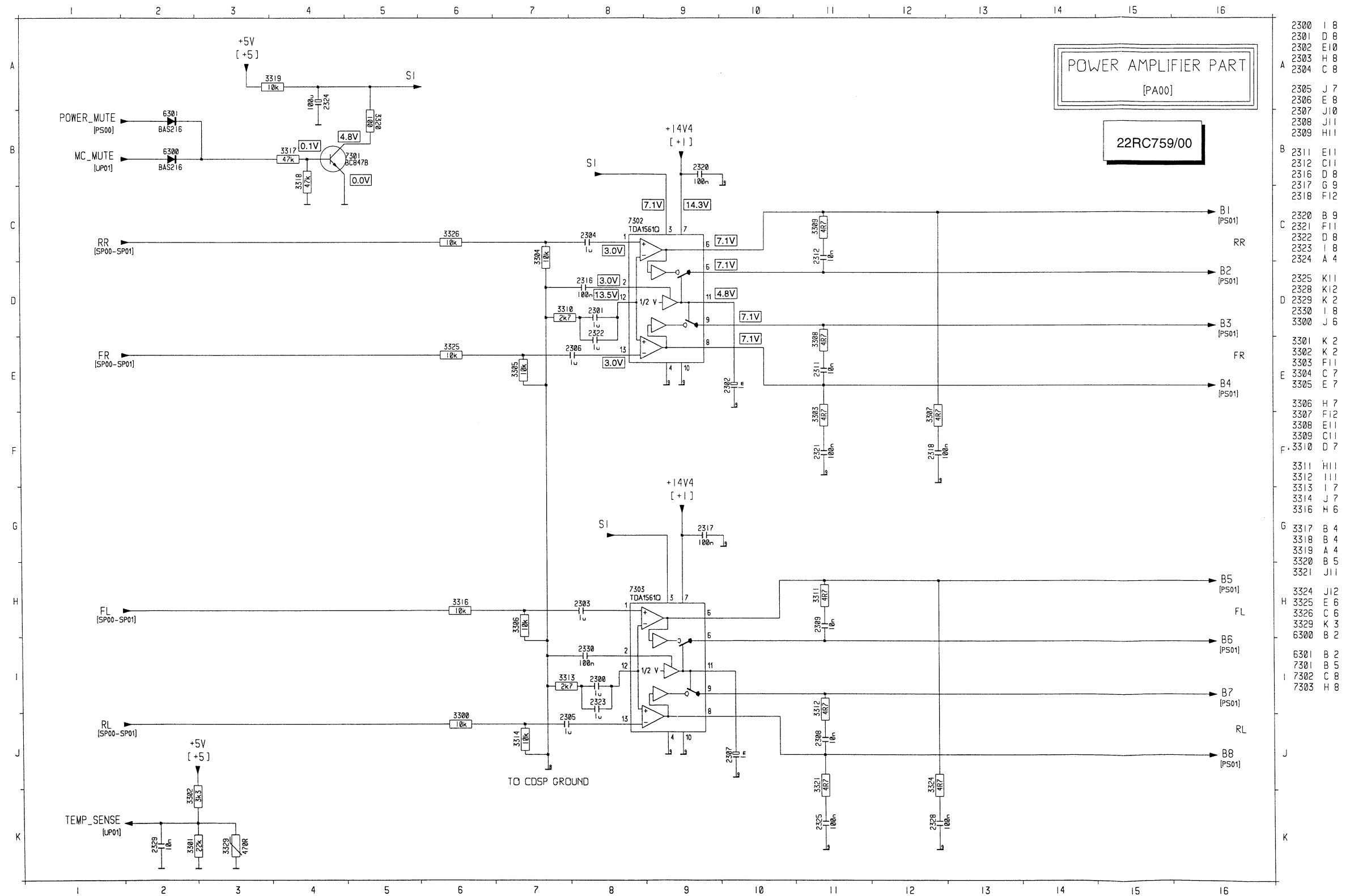
CARIN_AUD.....B9	CDC_REF.....F1	CD_WS.....C4	LO_RR.....G11
CARIN_L.....F11	CDC_RIGHT.....G1	FL.....F6	RL.....F9
CARIN_MUTE.....D6	CD_CL.....C4	FR.....G6	RR.....G9
CARIN_REF.....C8	CD_DATA.....B4	LO_FL.....F7	
CDC_LEFT.....E1	CD_L.....B9/F5	LO_FR.....G7	
CDC_ON.....A1	CD_R.....C9/F5	LO_RL.....F11	



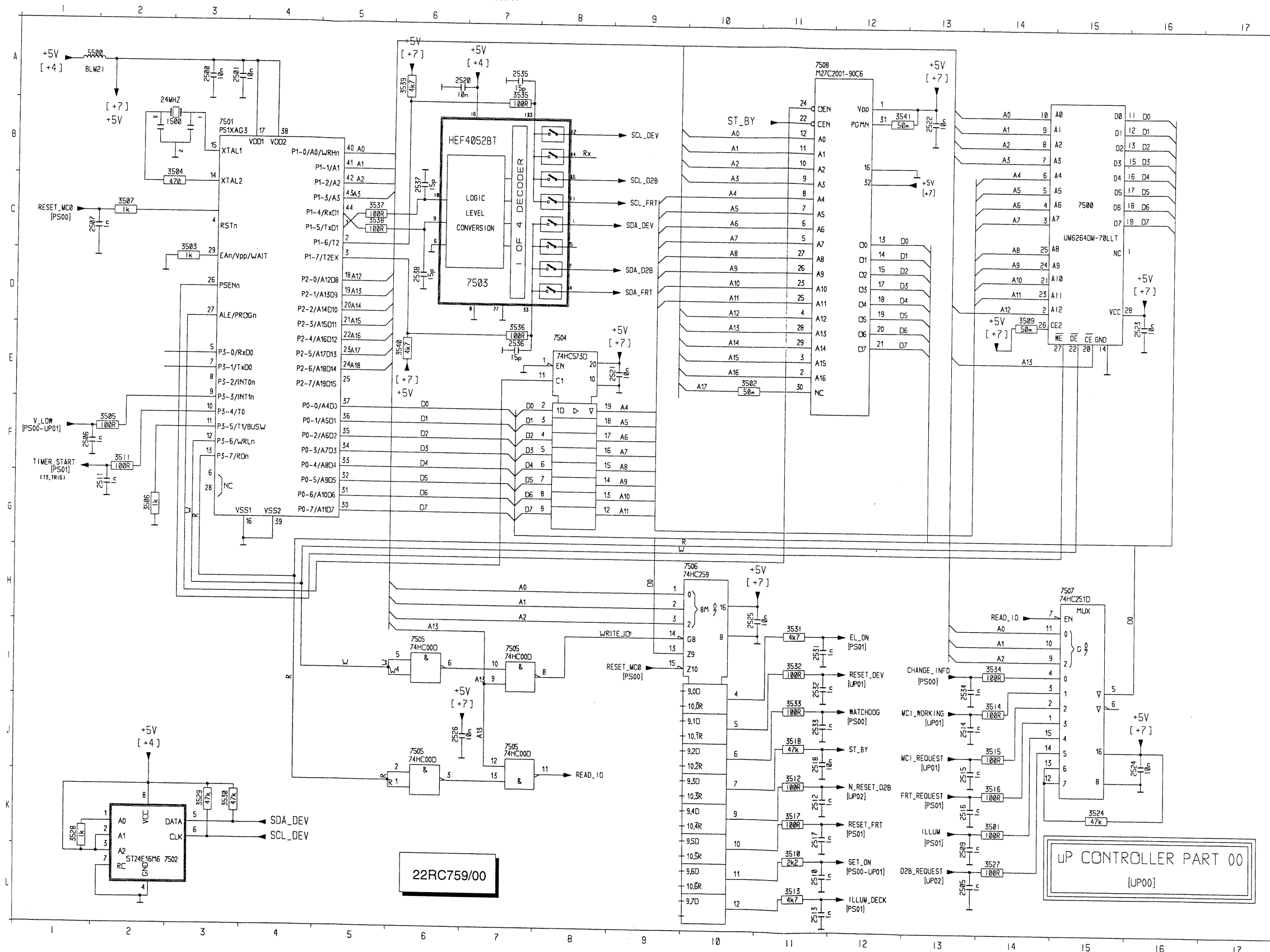
1202	A 8	3277	B 2
2260	D 8	3278	B 2
2261	F 6	3279	C 2
2262	F 7	3280	C 2
2264	G 6	3281	A 3
2265	G10	3282	B 5
2267	F 9	3283	C 5
2268	G 7	3284	C 5
2270	G 9	3285	A 7
2271	F10	3286	B 8
2272	A 8	3287	C 8
2275	B 3	3288	C 7
2276	C 2	3289	F 2
2277	E 9	3291	C 9
2278	E 6	3292	C 9
2279	F 9	3293	D 6
2280	B 5	3294	E 8
2281	B 7	3295	E 9
2282	A 7	3296	D 8
2283	B 9	3297	D 9
2284	B 7	3299	C 5
2285	C 8	5275	B 2
2286	C 7	5276	B 2
2287	C 7	5277	A 5
2288	E 2	5278	A 8
2289	F 2	7275	B 3
2290	G 2	7276	C 3
2291	E 3	7277	A 6
2292	F 4	7278	E 2
2293	F 4	7279	B10
2294	F 4	7290	E 8
2295	B11	7291	D 8
2296	E 8		
2297	B 9		
2298	C11		
2299	C 9		
3260	F 7		
3263	G10		
3266	G 7		
3269	F10		
3270	B 4		
3271	C 8		
3272	B 9		
3275	B 1		
3276	C 1		

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B1.....C16	B7.....I16	RL.....J1
B2.....D16	B8.....J16	RR.....C1
B3.....D16	FL.....H1	SI.....A5/B8/G8
B4.....E16	FR.....E1	TEMP_SENSE.....K1
B5.....H16	MC_MUTE.....B1	
B6.....I16	POWER_MUTE.....B1	



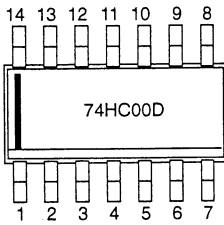
CHANGE_INFO.....I13	MCI_REQUEST.....J13	RESET_MC0.....C1/I9	SET_ON.....L12
D2B_REQUEST.....L13	MCI_WORKING.....J13	SCL_D2B.....B9	ST_BY.....B11/J12
EL_ON.....I12	N_RESET_D2B.....K12	SCL_DEV.....B9/K4	V_LOW_TIMER.....F1
FRT_REQUEST.....K13	READ_IO.....H14/J8	SCL_FRT.....C9	WATCHDOG.....J12
ILLUM.....K13	RESET_DEV.....I12	SDA_D2B.....D9	
ILLUM_DECK.....L12	RESET_FRT.....K12	SDA_DEV.....C9/K4	



1500	B 2	7505	J 6
2500	A 3	7505	I 6
2501	A 3	7505	I 7
A 2505	L13	7505	J 7
2506	F 1	7506	H10
2507	C 1	7507	H15
2509	K13	7508	A11
2510	L11		
2511	G 2		
B 2512	K11		
2513	L11		
2514	J13		
2515	J13		
2516	K13		
2517	K11		
C 2518	J11		
2520	A 6		
2521	E 9		
2522	B13		
2523	D16		
2524	J16		
D 2525	H10		
2526	J 6		
2531	I11		
2532	I11		
2533	J11		
2534	I13		
E 2535	A 7		
2536	E 7		
2537	C 6		
2538	D 6		
3501	K14		
3502	E10		
F 3503	D 3		
3504	B 3		
3505	F 2		
3506	G 2		
3507	C 2		
3509	D14		
G 3510	L11		
3511	F 2		
3512	K11		
3513	L11		
3514	J14		
3515	J14		
H 3516	K14		
3517	K11		
3518	J11		
3524	K15		
3527	L14		
3528	K 1		
I 3529	K 3		
3530	K 3		
3531	I11		
3532	I11		
3533	J11		
3534	I14		
J 3535	A 7		
3536	E 7		
3537	C 5		
3538	C 5		
3539	A 6		
3540	E 6		
3541	B12		
K 5500	A 1		
7500	C15		
7501	B 3		
7502	L 3		
7503	D 7		
L 7504	E 8		

74HC00D Quad 2-input nand gate

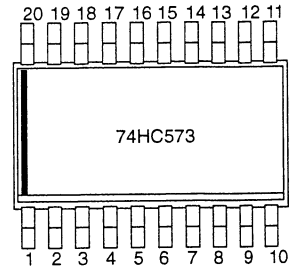
SYMBOL	PIN	DESCRIPTION
1A to 4A	1, 4, 9, 12	data inputs
1B to 4B	2, 5, 10, 13	data inputs
1Y to 4Y	3, 6, 8, 11	data outputs
GND	7	Ground (0V)
VCC	14	positive supply voltage



FUNCTION TABLE		
INPUTS		OUTPUT
nA	nB	nY
L	L	H
L	H	H
H	L	H
H	H	L

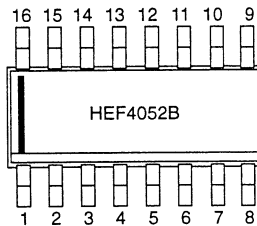
74HC573D Octal D-type transparent latch; 3-state

SYMBOL	PIN	DESCRIPTION
OE	1	3-state output enable input (active LOW)
D ₀ to D ₇	2 to 9	data inputs
GND	10	Ground (0V)
LE	11	latch enable input (active HIGH)
Q ₇ to Q ₀	12 to 19	3-state latch outputs
V _{CC}	20	positive supply voltage



HEF4052B Dual 4 channel analogue multi/demultiplexer

SYMBOL	PIN	DESCRIPTION
Y _{0A} to Y _{3A}	12, 14, 15, 11	independent inputs/outputs
Y _{0B} to Y _{3B}	1, 2, 5, 4	independent inputs/outputs
A ₀ , A ₁	10, 9	address inputs
E	6	enable input (active LOW)
Z _A , Z _B	13, 3	common inputs/outputs
V _{SS}	8	Ground (0V)
V _{DD}	16	positive supply voltage

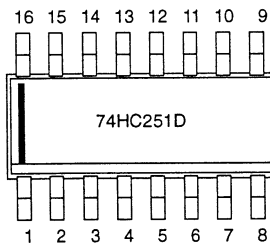


FUNCTION TABLE

INPUTS			channel ON
E	A ₁	A ₀	
L	L	L	Y _{0A} -Z _A ; Y _{0B} -Z _B
L	L	H	Y _{1A} -Z _A ; Y _{1B} -Z _B
L	H	L	Y _{2A} -Z _A ; Y _{2B} -Z _B
L	H	H	Y _{3A} -Z _A ; Y _{3B} -Z _B
H	X	X	none

74HC251D 8-input multiplexer; 3-state

SYMBOL	PIN	DESCRIPTION
I ₀ to I ₇	4,3,2,1,15,14,13,12	Multiplexer inputs
Y	5	Multiplexer output
Ȳ	6	Complementary multiplexer output
OE	7	3-state output enable input (active LOW)
GND	8	Ground
S ₀ , S ₁ , S ₂	11, 10, 9	select inputs
V _{CC}	16	Positive supply voltage

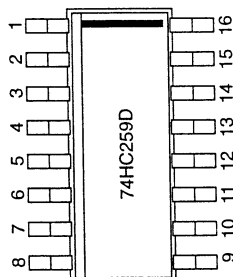


FUNCTION TABLE

OE	INPUTS											OUTPUTS	
	S ₂	S ₁	S ₀	I ₀	I ₁	I ₂	I ₃	I ₄	I ₅	I ₆	I ₇	Ȳ	Y
H	X	X	X	X	X	X	X	X	X	X	X	Z	Z
L	L	L	L	L	X	X	X	X	X	X	X	H	L
L	L	L	L	L	H	X	X	X	X	X	X	L	H
L	L	L	L	H	X	L	X	X	X	X	X	H	L
L	L	L	L	H	X	H	X	X	X	X	X	L	H
L	L	L	H	L	X	X	L	X	X	X	X	H	L
L	L	L	H	L	X	X	H	X	X	X	X	L	H
L	L	L	H	H	X	X	L	X	X	X	X	H	L
L	L	L	H	H	X	X	H	X	X	X	X	L	H
L	L	H	L	L	X	X	X	L	X	X	X	H	L
L	L	H	L	L	X	X	X	H	X	X	X	L	H
L	L	H	L	H	X	X	X	L	X	X	X	H	L
L	L	H	L	H	X	X	X	H	X	X	X	L	H
L	L	H	H	L	X	X	X	X	L	X	X	H	L
L	L	H	H	L	X	X	X	X	H	X	X	L	H
L	L	H	H	H	X	X	X	X	X	L	X	H	L
L	L	H	H	H	X	X	X	X	X	X	H	L	H
L	L	H	H	H	X	X	X	X	X	X	L	H	L
L	L	H	H	H	X	X	X	X	X	X	H	L	H

74HC259D 8-addressable latch

SYMBOL	PIN	DESCRIPTION
A ₀ to A ₂	1,2,3	Address inputs
Q ₀ to Q ₇	4, 5, 6, 7, 9, 10, 11, 12	Latch outputs
GND	8	Ground
D	13	Data input
LE	14	latch enable input (active LOW)
MR	15	conditional reset input (active LOW)
V _{CC}	16	Positive supply voltage



H=HIGH voltage level.
L= LOW voltage level.
X= don't care.
d= HIGH or LOW data one set-up time prior to the LOW-to-HIGH LE transition.
q= lower case letters indicate the state of the referenced output established during the last cycle in which it was addressed or cleared.

FUNCTION TABLE

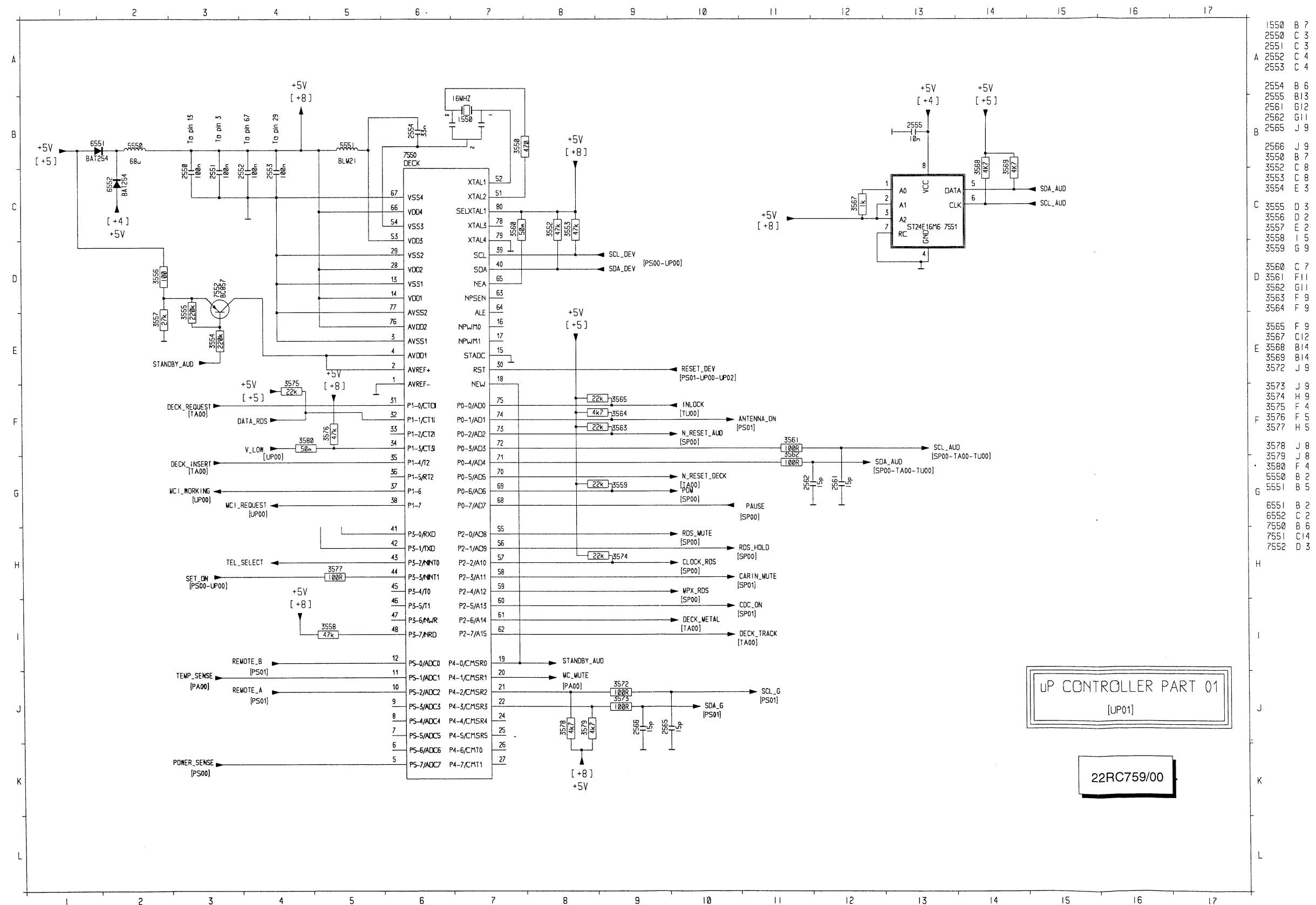
OPERATING MODES	INPUTS						OUTPUTS							
	MR	LE	D	A ₀	A ₁	A ₂	Q ₀	Q ₁	Q ₂	Q ₃	Q ₄	Q ₅	Q ₆	Q ₇
master reset	L	H	X	X	X	X	L	L	L	L	L	L	L	L
demultiplex (active HIGH) decoder (when D=H)	L	L	d	L	L	L	Q=d	L	L	L	L	L	L	L
	L	L	d	H	L	L	L	Q=d	L	L	L	L	L	L
	L	L	d	L	H	L	L	L	Q=d	L	L	L	L	L
	L	L	d	H	H	L	L	L	L	Q=d	L	L	L	L
	L	L	d	L	H	H	L	L	L	L	Q=d	L	L	L
store (do nothing)	H	H	X	X	X	X	q ₀	q ₁	q ₂	q ₃	q ₄	q ₅	q ₆	q ₇
addressable latch	H	L	d	L	L	L	Q=d	q ₁	q ₂	q ₃	q ₄	q ₅	q ₆	q ₇
	H	L	d	H	L	L	q ₀	Q=d	q ₂	q ₃	q ₄	q ₅	q ₆	q ₇
	H	L	d	L	H	L	q ₀	q ₁	Q=d	q ₃	q ₄	q ₅	q ₆	q ₇
	H	L	d	H	H	L	q ₀	q ₁	q ₂	Q=d	q ₄	q ₅	q ₆	q ₇
	H	L	d	L	H	H	q ₀	q ₁	q ₂	q ₃	Q=d	q ₅	q ₆	q ₇

DC voltages of microprocessor (FM mode, set tuned)

1	0.0V GND	41	N.C.
2	5.1V	42	N.C.
3	0.0V GND	43	4.8V
4	5.1V VDD	44	4.6V
5	4.4V	45	N.C.
6	N.C.	46	N.C.
7	N.C.	47	N.C.
8	N.C.	48	4.8V
9	N.C.	49	N.C.
10	0.5V	50	N.C.
11	0.8V	51	2.5V 16MHz
12	N.C.	52	2.1V 16MHz
13	0.0V GND	53	4.8V VDD
14	4.9 V VDD	54	0.0V
15	0.0V GND	55	4.8V
16	N.C.	56	4.8V
17	N.C.	57	4.9V
18	0.0V	58	4.8V
19	0.0V	59	0.0V
20	0.0V	60	0.0V
21	4.9V	61	N.C.
22	4.8V	62	N.C.
23	N.C.	63	N.C.
24	N.C.	64	N.C.
25	N.C.	65	4.8V
26	N.C.	66	4.8V VDD
27	N.C.	67	GND
28	5.0V VDD	68	0.0V
29	0.0V GND	69	0.0V
30	0.0V	70	0.0V
31	4.9V	71	5.0V
32	4.4V	72	4.9V
33	N.C.	73	5.1V
34	4.9V	74	5.2V
35	4.9V	75	5.2V
36	N.C.	76	4.9V VDD
37	4.8V	77	GND
38	4.9V	78	N.C.
39	4.8V	79	0.0V GND
40	4.8V	80	4.8V

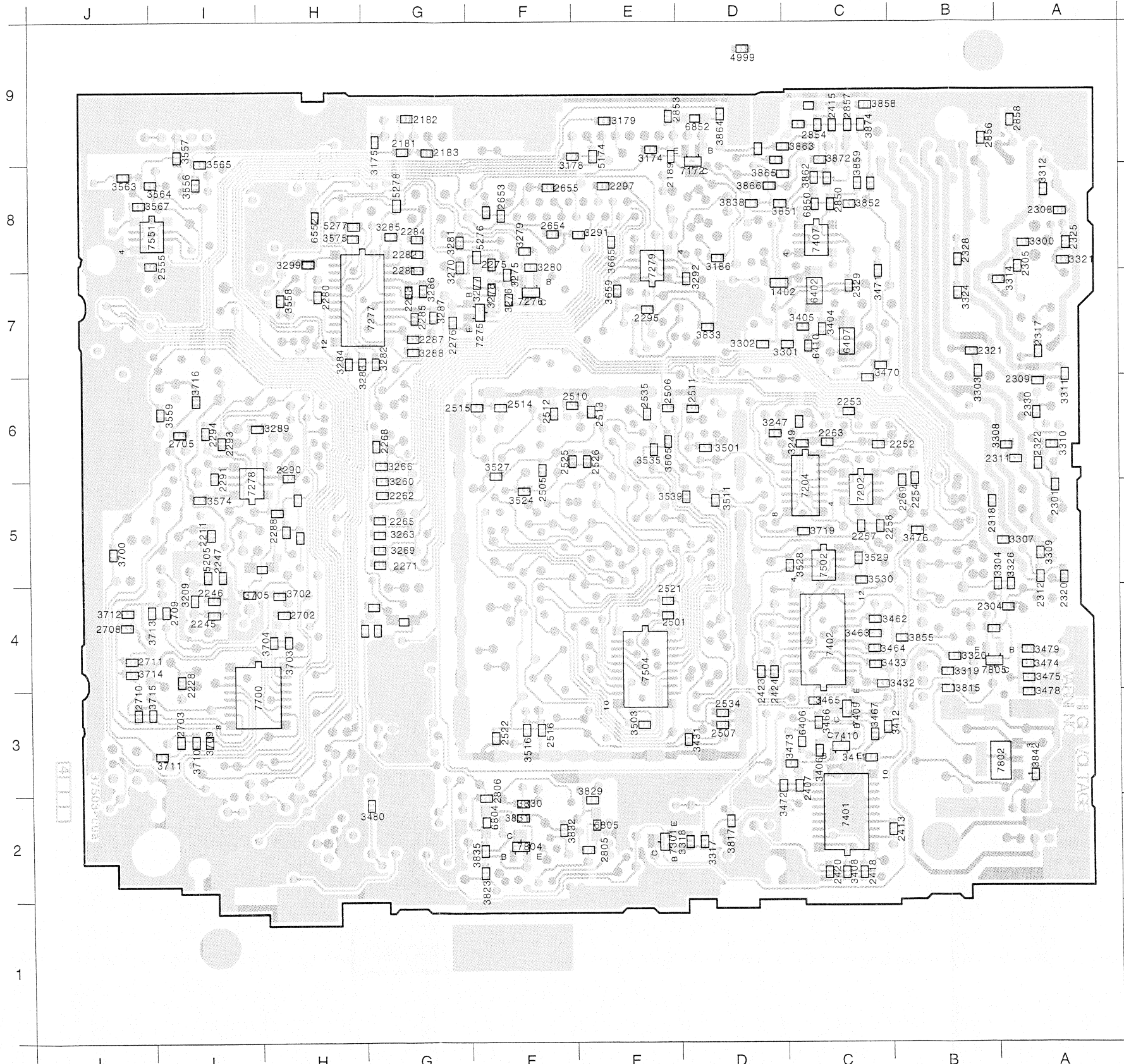
22RC759/00

ANTENNA_ON.....F10	DECK_METAL.....I10	MC_MUTE.....J8	POWER_SENSE.....K3	SCL_AUD.....C15/F13	SET_ON.....H3
CARIN_MUTE.....H10	DECK_REQUEST.....F3	MPX_RDS.....H10	RDS_HOLD.....H10	SCL_DEV.....D9	STANDBY_AUD.....E3/I8
CDC_ON.....I10	DECK_TRACK.....I10	N_RESET_AUD.....F10	RDS_MUTE.....H10	SCL_G.....J11	TEL_SELECT.....H3
CLOCK_RDS.....H10	INLOCK.....F10	N_RESET_DECK.....G10	REMOTE_A.....J4	SDA_AUD.....C15/G12	TEMP_SENSE.....J3
DATA_RDS.....F4	MCI_REQUEST.....G4	PAUSE.....G10	REMOTE_B.....I4	SDA_DEV.....D9	V_LOW.....F4
DECK_INSERT.....G3	MCI_WORKING.....G3	POM.....G10	RESET_DEV.....E10	SDA_G.....J10	



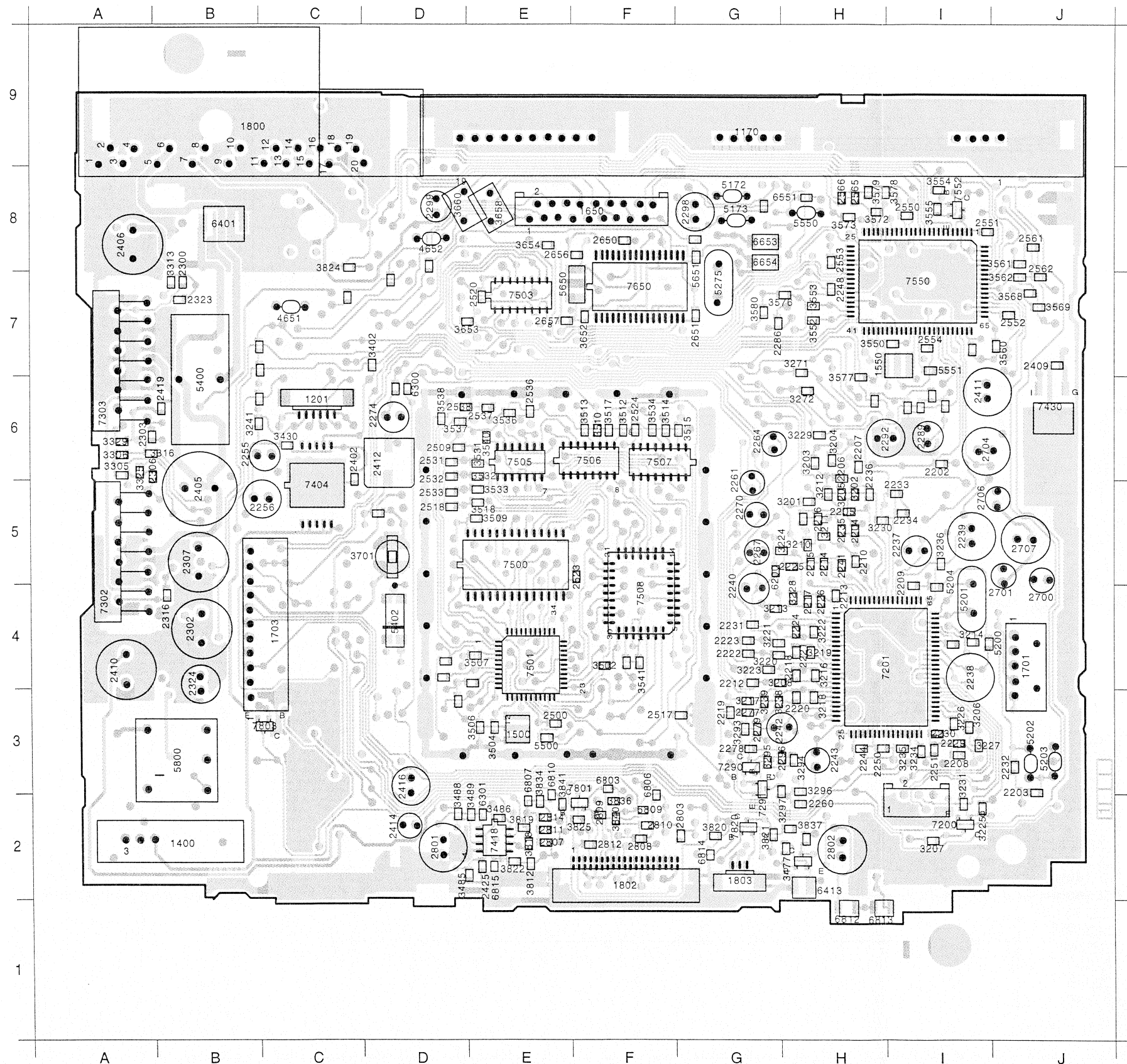
UP CONTROLLER PART 01
[UP01]

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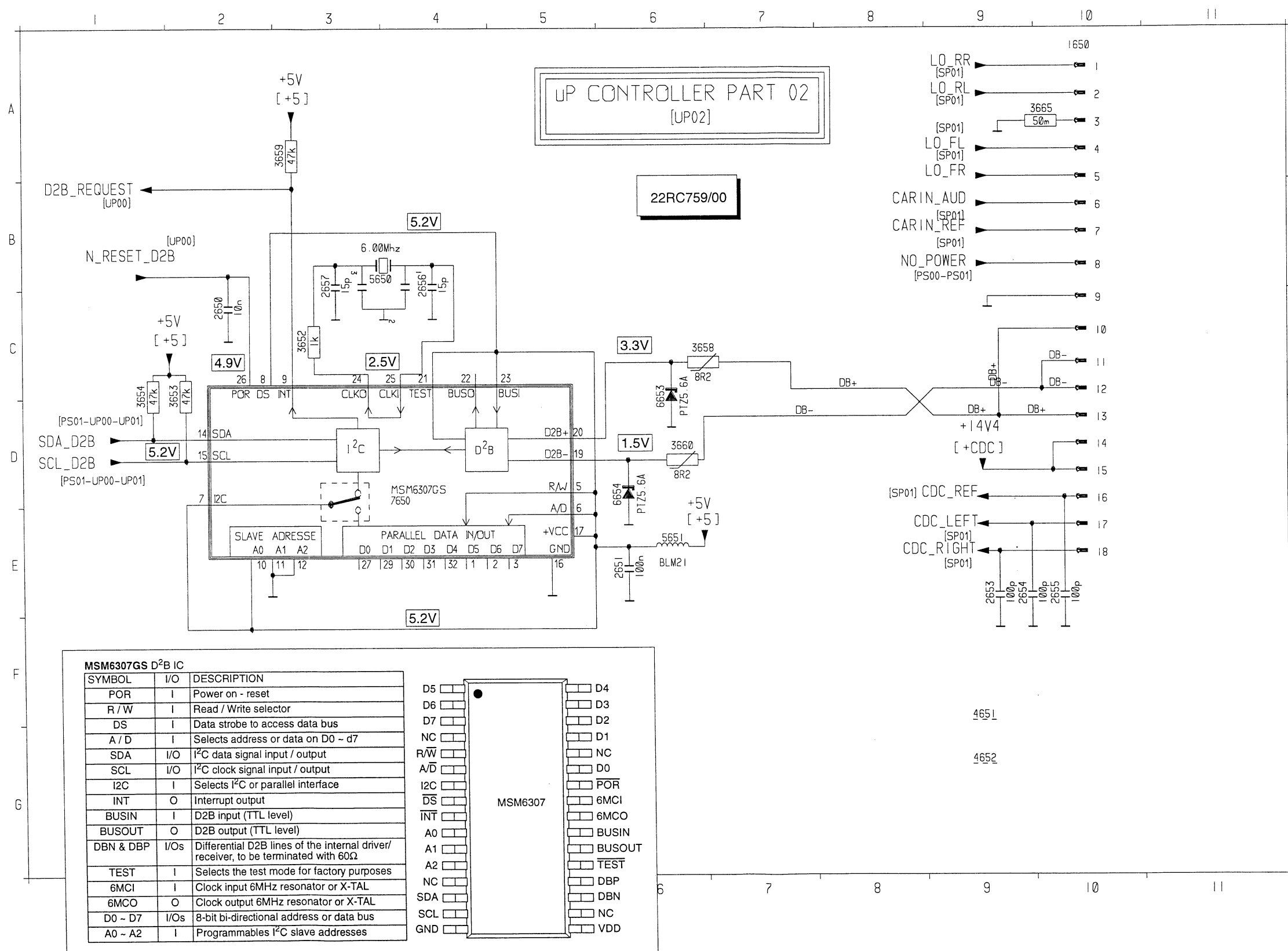
1402	D	7	2555	J	7	3433	C	3	3874	C	7
2181	G	8	2653	F	7	3462	C	3	4999	D	9
2182	G	8	2654	F	7	3463	C	3	5174	F	8
2183	G	8	2655	F	8	3464	C	3	5205	I	4
2189	E	8	2702	H	4	3465	C	3	5276	G	7
2211	I	4	2703	I	2	3466	C	3	5277	H	7
2228	I	3	2705	I	5	3467	C	2	5278	G	7
2245	I	4	2708	J	3	3470	C	6	6402	C	7
2246	I	4	2709	J	4	3471	C	7	6406	D	2
2247	I	4	2710	J	3	3472	D	2	6407	C	6
2252	C	5	2711	J	3	3473	D	2	6410	C	6
2253	C	5	2805	F	1	3474	A	3	6552	H	7
2254	B	5	2806	G	2	3475	A	3	6804	G	2
2257	C	4	2850	C	7	3476	B	4	6805	F	2
2258	C	4	2853	E	8	3478	A	3	6850	C	7
2262	H	5	2854	C	8	3479	A	3	6852	E	8
2263	C	5	2856	B	8	3480	H	2	7172	E	8
2265	H	4	2857	C	8	3501	D	5	7202	C	5
2268	H	5	2858	B	8	3503	E	2	7204	D	5
2269	C	5	3174	E	8	3505	E	5	7275	G	6
2271	H	4	3175	H	8	3511	D	5	7276	F	7
2275	F	7	3178	F	8	3516	F	7	7277	H	7
2276	G	6	3179	E	8	3524	F	5	7278	I	5
2280	H	7	3186	D	7	3527	F	5	7279	E	7
2281	G	7	3209	I	4	3528	D	4	7301	E	1
2282	G	7	3247	D	5	3529	C	4	7401	C	2
2283	G	7	3249	D	5	3530	C	4	7402	C	3
2284	G	7	3260	H	5	3535	E	5	7407	C	7
2285	G	6	3263	H	4	3539	E	5	7409	C	3
2287	G	6	3266	H	5	3556	I	8	7410	C	2
2288	I	5	3269	H	4	3557	I	8	7502	C	4
2290	H	5	3270	G	7	3558	H	7	7504	E	3
2291	I	5	3275	F	7	3559	J	5	7551	J	7
2293	I	5	3276	F	7	3563	J	8	7700	I	3
2294	I	5	3277	G	7	3564	J	8	7802	B	2
2295	E	6	3278	F	7	3565	I	8	7804	F	3
2297	E	8	3279	F	7	3567	J	7	7805	B	1
2301	A	5	3280	F	7	3574	I	5			
2304	B	4	3281	G	7	3575	H	7			
2305	A	7	3282	H	6	3659	E	7			
2308	A	7	3283	H	6	3665	E	7			
2309	A	6	3284	H	6	3700	J	4			
2311	B	5	3285	G	7	3702	I	4			
2312	A	4	3286	G	7	3703	H	3			
2317	A	6	3287	G	6	3704	I	3			
2318	B	5	3288	G	6	3705	I	4			
2320	A	4	3289	I	5	3709	I	2			
2321	B	6	3291	F	7	3710	I	2			
2322	A	5	3292	E	7	3711	J	2			
2325	A	7	3299	H	7	3712	J	4			
2328	B	7	3300	A	7	3713	J	4			
2329	C	7	3301	D	6	3714	J	3			
2330	A	5	3302	D	6	3715	J	3			
2407	D	2	3303	B	6	3716	I	6			
2413	C	1	3304	B	4	3719	D	4			
2415	C	8	3307	B	4	3815	B	3			
2418	C	1	3308	B	5	3817	D	2			
2420	C	1	3309	A	4	3823	G	1			
2423	D	3	3310	A	5	3829	F	2			
2424	D	3	3311	A	6	3830	F	2			
2501	E	4	3312	A	8	3831	F	2			
2505	F	5	3314	B	7	3832	F	1			
2506	E	6	3317	D	1	3833	D	6			
2507	D	2	3318	E	1	3835	G	1			
2510	F	6	3319	B	3	3838	D	7			
2511	E	6	3320	B	3	3842	A	2			
2512	F	5	3321	A	7	3851	D	7			
2513	F	5	3324	B	7	3852	C	7			
2514	F	6	3326	B	4	3855	C	3			
2515	G	6	3404	C	6	3858	C	8			
2516	F	2	3405	D	6	3859	C	8			
2521	E	4	3406	C	2	3862	C	8			
2522	F	2	3408	C	1	3863	D	8			
2525	F	5	3411	C	2	3864	D	8			
2526	F	5	3412	C	2	3865	D	8			
2534	D	3	3431	E	2	3866	D	8			
2535	E	5	3432	C	3	3872	C	8			

22RC759/00 PWB LAYOUT - TOPSIDE VIEW



1170	G 8	2323	B 7	3226	I 2	3818	E 1
1201	C 6	2324	B 3	3227	I 2	3819	E 2
1400	B 1	2402	C 5	3228	H 4	3820	G 1
1500	E 2	2405	B 5	3229	H 5	3821	G 1
1550	I 6	2406	A 7	3230	H 4	3822	E 1
1650	F 7	2409	J 6	3231	I 2	3824	C 7
1701	J 3	2410	A 3	3234	I 2	3825	F 2
1703	B 3	2411	I 6	3235	I 2	3834	E 2
1800	B 8	2412	D 5	3236	I 4	3836	F 2
1802	F 1	2414	D 2	3238	G 3	3837	H 1
1803	G 1	2416	D 2	3239	G 3	3840	F 2
2202	I 5	2419	B 6	3241	C 5	3841	E 2
2203	J 2	2425	E 1	3271	H 6	4651	C 6
2204	H 4	2500	E 2	3272	H 6	4652	D 7
2205	H 5	2509	D 5	3293	G 2	5172	G 8
2206	H 5	2517	G 3	3294	H 2	5173	G 7
2207	H 5	2518	D 5	3295	G 2	5200	I 3
2208	I 2	2520	E 7	3296	H 2	5201	I 4
2209	I 4	2523	F 4	3297	H 2	5202	J 2
2210	H 4	2524	F 5	3305	A 5	5203	J 2
2212	G 3	2531	D 5	3306	A 5	5204	I 4
2213	H 4	2532	D 5	3313	B 7	5275	G 7
2214	H 4	2533	D 5	3316	A 5	5400	B 6
2215	H 4	2536	E 5	3325	A 5	5402	D 3
2216	H 4	2537	E 6	3329	A 5	5500	E 2
2217	H 4	2538	D 6	3402	D 6	5550	H 7
2218	H 3	2550	I 7	3430	C 5	5551	I 6
2219	G 3	2551	I 7	3477	H 1	5650	F 7
2220	H 3	2552	J 6	3485	E 1	5651	G 7
2221	H 3	2553	H 7	3486	E 2	5800	B 2
2222	G 3	2554	I 6	3488	D 2	6200	G 4
2223	G 3	2561	J 7	3489	E 2	6300	D 6
2224	H 3	2562	J 7	3502	F 3	6301	E 2
2225	H 4	2565	H 8	3504	E 2	6401	B 7
2226	H 4	2566	H 8	3506	E 2	6413	H 1
2229	I 2	2650	F 7	3507	E 3	6551	H 8
2230	I 2	2651	G 6	3509	E 4	6653	G 7
2231	G 3	2656	F 7	3510	F 5	6654	G 7
2232	J 2	2657	E 6	3512	F 5	6803	F 2
2233	I 5	2700	J 4	3513	F 5	6806	F 2
2234	I 5	2701	J 4	3514	F 5	6807	E 2
2235	H 4	2704	I 5	3515	G 5	6809	F 2
2236	H 5	2706	J 5	3517	F 5	6810	E 2
2237	I 4	2707	J 4	3518	E 5	6812	H 1
2238	I 3	2801	D 1	3531	E 5	6813	H 1
2239	I 4	2802	H 1	3532	E 5	6814	G 1
2240	G 4	2803	G 1	3533	E 5	6815	E 1
2241	H 4	2807	E 1	3534	F 5	7200	I 2
2242	H 2	2808	F 1	3536	E 5	7201	H 3
2243	H 2	2809	F 2	3537	D 5	7290	G 2
2244	H 2	2810	F 2	3538	D 5	7291	G 2
2248	H 7	2811	E 1	3540	E 5	7302	A 4
2250	H 2	2812	F 1	3541	F 3	7303	A 6
2251	I 2	2814	E 2	3550	I 6	7404	C 5
2255	C 5	3201	H 5	3552	H 6	7418	E 1
2256	C 5	3202	H 5	3553	H 6	7430	J 5
2260	H 2	3203	H 5	3554	I 8	7500	E 4
2261	G 5	3204	H 5	3555	I 7	7501	E 3
2264	G 5	3205	H 5	3560	J 6	7503	E 7
2267	G 4	3206	I 2	3561	J 7	7505	E 5
2270	G 4	3207	I 1	3562	J 7	7506	F 5
2274	D 5	3208	G 3	3568	J 7	7507	F 5
2277	G 3	3210	H 4	3569	J 6	7508	F 4
2278	G 2	3211	H 4	3572	H 7	7550	I 7
2279	G 2	3212	H 5	3573	H 7	7552	I 7
2286	G 6	3213	G 4	3576	H 7	7650	F 7
2289	I 5	3214	I 3	3577	H 6	7801	F 2
2292	H 5	3216	H 3	3578	H 8	7803	C 2
2296	H 2	3217	G 3	3579	H 8	7820	G 2
2298	G 7	3218	H 3	3580	G 6		
2299	D 7	3219	H 3	3652	F 6		
2300	B 7	3220	G 3	3653	E 6		
2302	B 3	3221	G 3	3654	E 7		
2303	A 5	3222	H 3	3658	E 7		
2306	A 5	3223	G 3	3660	D 7		
2307	B 4	3224	H 4	3701	D 4		
2316	B 4	3225	I 2	3812	E 1		

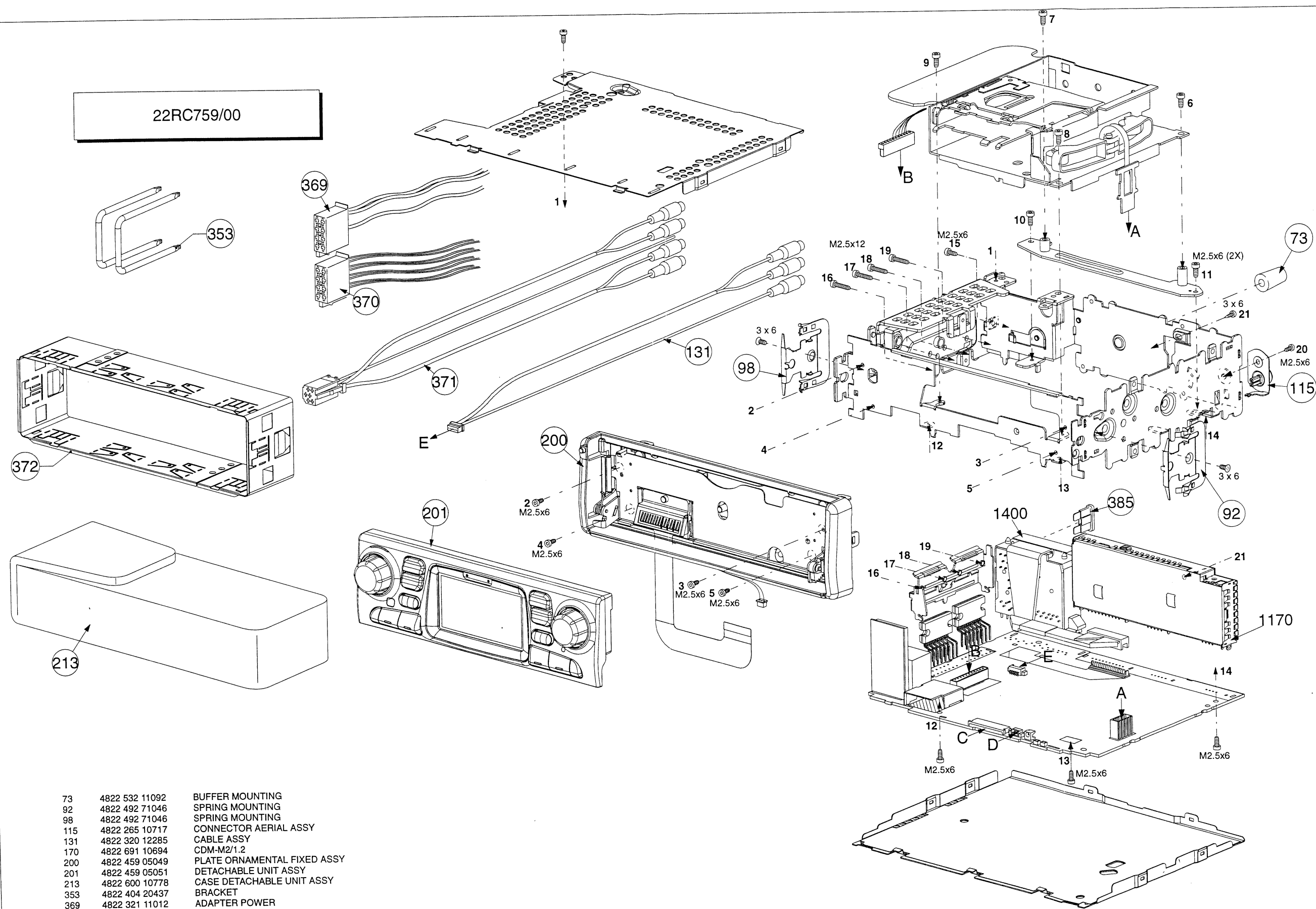
CARIN_AUD.....B9
 CARIN_REF.....B9
 CDC_LEFT.....E9
 CDC_REF.....D9
 CDC_RIGHT.....E9
 D2B_REQUEST.....A1
 LO_FL.....A9
 LO_FR.....A9
 LO_RL.....A9
 LO_RR.....A9
 NO_POWER.....B9
 N_RESET_D2B.....B1
 SCL_D2B.....D1
 SDA_D2B.....D1



1650 E10
 2650 C 2
 2651 E 6
 2653 E 9
 2654 E 9
 2655 E10
 2656 B 4
 2657 B 3
 3652 C 3
 3653 C 2
 3654 C 1
 3658 C 6
 3659 A 3
 3660 D 6
 3665 A10
 4651 F 9
 4652 G 9
 5650 B 3
 5651 E 6
 6653 C 6
 6654 D 6
 7650 D 4

MSM6307GS D ² B IC		
SYMBOL	I/O	DESCRIPTION
POR	I	Power on - reset
R / W	I	Read / Write selector
DS	I	Data strobe to access data bus
A / D	I	Selects address or data on D0 ~ d7
SDA	I/O	I ² C data signal input / output
SCL	I/O	I ² C clock signal input / output
I2C	I	Selects I ² C or parallel interface
INT	O	Interrupt output
BUSIN	I	D2B input (TTL level)
BUSOUT	O	D2B output (TTL level)
DBN & DBP	I/Os	Differential D2B lines of the internal driver/receiver, to be terminated with 60Ω
TEST	I	Selects the test mode for factory purposes
6MCI	I	Clock input 6MHz resonator or X-TAL
6MCO	O	Clock output 6MHz resonator or X-TAL
D0 ~ D7	I/Os	8-bit bi-directional address or data bus
A0 ~ A2	I	Programmable I ² C slave addresses


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73	4822 532 11092	BUFFER MOUNTING
92	4822 492 71046	SPRING MOUNTING
98	4822 492 71046	SPRING MOUNTING
115	4822 265 10717	CONNECTOR AERIAL ASSY
131	4822 320 12285	CABLE ASSY
170	4822 691 10694	CDM-M2/1.2
200	4822 459 05049	PLATE ORNAMENTAL FIXED ASSY
201	4822 459 05051	DETACHABLE UNIT ASSY
213	4822 600 10778	CASE DETACHABLE UNIT ASSY
353	4822 404 20437	BRACKET
369	4822 321 11012	ADAPTER POWER
370	4822 320 11637	CABLE ADAPTER L.S
371	4822 320 11638	CABLE LINE OUT
372	4822 443 30463	SLEEVE
375	4822 736 15995	DIRECTIONS FOR USE

Miscellaneous			-II-		
1170	4822 210 10721	TUNER	2250	5322 122 32531	100pF 5% NP0 50V
1400	4822 218 11862	S.M.P.S. ASSY 5,3V 1,2A	2251	5322 122 32531	100pF 5% NP0 50V
1402	4822 253 30446	2,00A 32V 3,02X1,6X1,2 F	2252	4822 126 13849	220nF 10% 16V
1500	4822 242 10868	CSTCS24.00MX040 R	2253	4822 126 13849	220nF 10% 16V
1550	4822 242 10564	CSTCS16.00MX040-TC	2254	4822 126 13196	100nF 10% 0805 X7R 25V
1800	4822 265 10941	CON. BLOCK ASSY ABC V3	2255	4822 124 23279	22μF 20% 16V
-II-			2256	4822 124 22646	47μF 20% 16V
			2257	4822 126 14043	1μF +80-20% 16V
			2258	4822 126 14043	1μF +80-20% 16V
			2260	4822 126 13849	220nF 10% 16V
			2261	4822 124 41017	10μF 16V
			2262	5322 122 34123	1nF 10% X7R 50V
			2263	4822 126 13849	220nF 10% 16V
			2264	4822 124 41017	10μF 16V
			2265	5322 122 34123	1nF 10% X7R 50V
			2267	4822 124 41017	10μF 16V
2181	5322 122 32531	100pF 5% NP0 50V	2268	5322 122 34123	1nF 10% X7R 50V
2182	5322 122 32654	22nF 10% X7R 63V	2269	5322 122 34123	1nF 10% X7R 50V
2183	5322 122 32654	22nF 10% X7R 63V	2270	4822 124 41017	10μF 16V
2189	4822 126 13196	100nF 10% 0805 X7R 25V	2271	5322 122 34123	1nF 10% X7R 50V
2202	5322 122 34123	1nF 10% X7R 50V	2272	4822 124 12294	SM CAP 220μF 6,3V
2203	4822 126 13196	100nF 10% 0805 X7R 25V	2274	4822 124 23279	22μF 20% 16V
2204	4822 126 13849	220nF 10% 16V	2275	5322 122 32448	10pF 5% 50V
2205	4822 126 13849	220nF 10% 16V	2276	5322 122 32659	33pF 5% 50V
2206	5322 126 10223	4,7nF 10% X7R 63V	2277	4822 126 14043	1μF +80-20% 16V
2207	5322 126 10223	4,7nF 10% X7R 63V	2278	5322 122 34123	1nF 10%X7R 50V
2208	5322 122 32531	100pF 5% NP0 50V	2279	4822 126 14043	1μF +80-20% 16V
2209	4822 126 12105	33nF 5% X7R 63V	2280	4822 126 13849	220nF 10% 16V
2210	5322 122 32654	22nF 10% X7R 63V	2281	4822 126 13196	100nF 10% 0805 X7R 25V
2211	4822 126 13196	100nF 10% 0805 X7R 25V	2282	4822 126 13849	220nF 10% 16V
2212	5322 122 34098	10nF 10% X7R 63V	2283	4822 126 13694	68pF 1% NP0 63V
2213	5322 122 34098	10nF 10% X7R 63V	2284	4822 126 13196	100nF 10% 0805 X7R 25V
2214	5322 122 31863	330pF 5% NP0 50V	2285	4822 126 13694	68pF 1% NP0 63V
2215	5322 122 33538	150pF 2% NP0 63V	2286	4822 126 13196	100nF 10% 0805 X7R 25V
2216	5322 122 31863	330pF 5% NP0 50V	2287	5322 122 32654	22nF 10% X7R 63V
2217	5322 122 34123	1nF 10% X7R 50V	2288	4822 126 13849	220nF 10% 16V
2218	5322 122 34123	1nF 10% X7R 50V	2289	4822 124 23279	22μF 20% 16V
2219	5322 122 34098	10nF 10% X7R 63V	2290	4822 126 13849	220nF 10% 16V
2220	5322 122 34123	1nF 10% X7R 50V	2291	4822 126 13196	100nF 10% 0805 X7R 25V
2221	5322 122 34123	1nF 10% X7R 50V	2292	4822 124 22646	47μF 20% 16V
2222	5322 122 34098	10nF 10% X7R 63V	2293	4822 126 14043	1μF +80-20% 16V
2223	5322 122 34098	10nF 10% X7R 63V	2294	4822 126 14043	1μF +80-20% 16V
2224	5322 122 34098	10nF 10% X7R 63V	2295	4822 126 13196	100nF 10% 0805 X7R 25V
2225	5322 122 34123	1nF 10% X7R 50V	2296	4822 126 13849	220nF 10% 16V
2226	4822 126 13196	100nF 10% 0805 X7R 25V	2297	4822 126 13849	220nF 10% 16V
2227	5322 122 34123	1nF 10% X7R 50V	2298	4822 124 22646	47μF 20% 16V
2228	4822 126 13196	100nF 10% 0805 X7R 25V	2299	4822 124 23279	22μF 20% 16V
2229	5322 122 32531	100pF 5% NP0 50V	2300	4822 126 14043	1μF +80-20% 16V
2230	5322 122 32531	100pF 5% NP0 50V	2301	4822 126 14043	1μF +80-20% 16V
2231	4822 126 13196	100nF 10% 0805 X7R 25V	2302	4822 124 80061	1000μF 20% 25V
2232	4822 126 13196	100nF 10% 0805 X7R 25V	2303	4822 126 14043	1μF +80-20% 16V
2233	5322 122 31863	330pF 5% NP0 50V	2304	4822 126 14043	1μF +80-20% 16V
2234	5322 122 31863	330pF 5%NP0 50V	2305	4822 126 14043	1μF +80-20% 16V
2235	5322 122 34123	1nF 10%X7R 50V	2306	4822 126 14043	1μF +80-20% 16V
2236	5322 122 34123	1nF 10%X7R 50V	2307	4822 124 80061	1000μF 20% 25V
2237	4822 124 23279	22μF 20% 16V	2308	5322 122 34098	10nF 10% X7R 63V
2238	4822 124 23582	220μF 10V	2309	5322 122 34098	10nF 10% X7R 63V
2239	4822 124 11952	100μF 20% 16V	2311	5322 122 34098	10nF 10% X7R 63V
2240	4822 124 23279	22μF 20% 16V	2312	5322 122 34098	10nF 10% X7R 63V
2241	4822 126 14043	1μF +80-20% 16V	2316	4822 126 13196	100nF 10% 0805 X7R 25V
2242	4822 124 23279	22μF 20% 16V			
2243	4822 124 23282	1μF 20% 50V			
2244	5322 122 34123	1nF 10%X7R 50V			
2245	5322 122 32269	6,8pF 5% 50V			
2246	5322 122 32269	6,8pF 5% 50V			
2247	5322 122 34123	1nF 10%X7R 50V			
2248	4822 122 33575	220pF 5%NPO 50V			

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-II-			-II-		
2317	4822 126 13196	100nF 10% 0805 X7R 25V	2551	4822 126 13196	100nF 10% 0805 X7R 25V
2318	4822 126 13196	100nF 10% 0805 X7R 25V	2552	4822 126 13196	100nF 10% 0805 X7R 25V
2320	4822 126 13196	100nF 10% 0805 X7R 25V	2553	4822 126 13196	100nF 10% 0805 X7R 25V
2321	4822 126 13196	100nF 10% 0805 X7R 25V	2554	4822 126 12105	33nF 5%X7R 63V
2322	4822 126 14043	1μF +80-20% 16V	2555	5322 122 34098	10nF 10%X7R 63V
2323	4822 126 14043	1μF +80-20% 16V	2561	4822 126 13486	15pF 2% NP0 63V
2324	4822 124 80453	100μF 20% 10V	2562	4822 126 13486	15pF 2% NP0 63V
2325	4822 126 13196	100nF 10% 0805 X7R 25V	2565	4822 126 13486	15pF 2% NP0 63V
2328	4822 126 13196	100nF 10% 0805 X7R 25V	2566	4822 126 13486	15pF 2% NP0 63V
2329	5322 122 34098	10nF 10%X7R 63V	2650	5322 122 34098	10nF 10%X7R 63V
2330	4822 126 13196	100nF 10% 0805 X7R 25V	2651	4822 126 13196	100nF 10% 0805 X7R 25V
2402	4822 126 12105	33nF 5%X7R 63V	2653	5322 122 32531	100pF 5%NP0 50V
2405	4822 124 80769	2200μF 20% 16V	2654	5322 122 32531	100pF 5%NP0 50V
2406	4822 124 23308	2200μF 20% 16V	2655	5322 122 32531	100pF 5%NP0 50V
2407	5322 122 32268	470pF 10% 50V	2656	4822 126 13486	15pF 2% NP0 63V
2409	4822 126 13849	220nF 10% 16V	2657	4822 126 13486	15pF 2% NP0 63V
2410	4822 124 80061	1000μF 20% 25V	2700	4822 124 41017	10μF 16V
2411	4822 124 11952	100μF 20% 16V	2701	4822 124 41017	10μF 16V
2412	4822 124 12085	100μF 20% SM 16V	2702	5322 122 34098	10nF 10%X7R 63V
2413	4822 126 14043	1μF +80-20% 16V	2703	5322 122 34098	10nF 10%X7R 63V
2414	4822 124 23282	1μF 20% 50V	2704	4822 124 11952	100μF 20% 16V
2415	4822 122 33575	220pF 5%NPO 50V	2705	5322 122 32654	22nF 10%X7R 63V
2416	4822 124 22646	47μF 20% 16V	2706	4822 124 41017	10μF 16V
2418	4822 126 13849	220nF 10% 16V	2707	4822 124 11952	100μF 20% 16V
2419	5322 126 10223	4,7nF 10%X7R 63V	2708	5322 116 80853	560pF 5%NP0 63V
2420	4822 126 13196	100nF 10% 0805 X7R 25V	2709	5322 116 80853	560pF 5%NP0 63V
2423	4822 126 13486	15pF 2% NP0 63V	2710	5322 116 80853	560pF 5%NP0 63V
2424	4822 126 13486	15pF 2% NP0 63V	2711	5322 116 80853	560PF 5%NP0 63V
2425	5322 122 32654	22nF 10%X7R 63V	2801	4822 124 23582	220μF 10V
2500	5322 122 34098	10nF 10%X7R 63V	2802	4822 124 23582	220μF 10V
2501	5322 122 34098	10nF 10%X7R 63V	2803	5322 122 32268	470pF 10% 50V
2505	5322 122 34123	1nF 10%X7R 50V	2805	5322 122 32531	100pF 5%NP0 50V
2506	5322 122 34123	1nF 10%X7R 50V	2806	5322 122 32531	100pF 5%NP0 50V
2507	5322 122 34123	1nF 10%X7R 50V	2807	5322 122 32268	470pF 10% 50V
2509	5322 122 34123	1nF 10%X7R 50V	2808	5322 122 32268	470pF 10% 50V
2510	5322 122 34123	1nF 10%X7R 50V	2809	5322 122 32268	470pF 10% 50V
2511	5322 122 34123	1nF 10%X7R 50V	2810	5322 122 32268	470pF 10% 50V
2512	5322 122 34123	1nF 10%X7R 50V	2811	5322 122 32268	470pF 10% 50V
2513	5322 122 34123	1nF 10%X7R 50V	2812	5322 122 32268	470pF 10% 50V
2514	5322 122 34123	1nF 10%X7R 50V	2814	5322 122 32268	470pF 10% 50V
2515	5322 122 34123	1nF 10%X7R 50V	2850	5322 122 34123	1nF 10%X7R 50V
2516	5322 122 34123	1nF 10%X7R 50V	2853	5322 122 34123	1nF 10%X7R 50V
2517	5322 122 34123	1nF 10%X7R 50V	2854	5322 122 34098	10nF 10%X7R 63V
2518	5322 122 34098	10nF 10%X7R 63V	2856	4822 122 33575	220pF 5%NPO 50V
2520	5322 122 34098	10nF 10%X7R 63V	2857	4822 122 33575	220pF 5%NPO 50V
2521	5322 122 34098	10nF 10%X7R 63V	2858	4822 122 33575	220pF 5%NPO 50V
2522	5322 122 34098	10nF 10%X7R 63V			
2523	5322 122 34098	10nF 10%X7R 63V			
2524	5322 122 34098	10nF 10%X7R 63V			
2525	5322 122 34098	10nF 10%X7R 63V			
2526	5322 122 34098	10nF 10%X7R 63V			
2531	5322 122 34123	1nF 10%X7R 50V	3174	4822 051 20332	3K30 5% 0,1W
2532	5322 122 34123	1nF 10%X7R 50V	3175	4822 051 20102	1KΩ 5% 0,1W
2533	5322 122 34123	1nF 10%X7R 50V	3178	4822 051 20008	0Ω JUMP. (0805)
2534	5322 122 34123	1nF 10%X7R 50V	3179	4822 051 20008	0Ω JUMP. (0805)
2535	4822 126 13486	15pF 2% NP0 63V	3186	4822 117 11449	2K2 1% 0,1W
2536	4822 126 13486	15pF 2% NP0 63V	3201	4822 051 20273	27KΩ 5% 0,1W
2537	4822 126 13486	15pF 2% NP0 63V	3202	4822 051 20273	27KΩ 5% 0,1W
2538	4822 126 13486	15pF 2% NP0 63V	3203	4822 117 11449	2K2 1% 0,1W
2550	4822 126 13196	100nF 10% 0805 X7R 25V	3204	4822 117 11449	2K2 1% 0,1W
			3205	4822 117 10833	10K 1% 0,1W
			3212	4822 117 10833	10K 1% 0,1W

32a

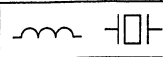
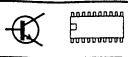


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3206	4822 117 11503	220R 1% 0,1W	3297	4822 051 20104	100KΩ 5% 0,1W
3207	4822 051 20101	100Ω 5% 0,1W	3299	4822 051 20109	10Ω 5% 0,1W
3208	4822 051 20101	100Ω 5% 0,1W	3300	4822 117 10833	10K 1% 0,1W
3209	4822 051 20104	100KΩ 5% 0,1W	3301	4822 051 20223	22KΩ 5% 0,1W
3210	4822 051 20332	3K30 5% 0,1W	3302	4822 051 20332	3KΩ 5% 0,1W
3211	4822 051 20332	3K30 5% 0,1W	3303	4822 051 20478	4Ω7 5% 0,1W
3213	4822 051 20562	5K6 5% 0,1W 0805	3304	4822 117 10833	10KΩ 1% 0,1W
3214	4822 051 20101	100Ω 5% 0,1W	3305	4822 117 10833	10KΩ 1% 0,1W
3216	4822 117 12955	2K7 1% 0,1W 0805	3306	4822 117 10833	10KΩ 1% 0,1W
3217	4822 051 20101	100Ω 5% 0,1W	3307	4822 051 20478	4Ω7 5% 0,1W
3218	4822 117 12955	2K7 1% 0,1W 0805	3308	4822 051 20478	4Ω7 5% 0,1W
3219	4822 117 12955	2K7 1% 0,1W 0805	3309	4822 051 20478	4Ω7 5% 0,1W
3220	4822 051 20101	100Ω 5% 0,1W	3310	4822 117 12955	2K7 1% 0,1W 0805
3221	4822 051 20101	100Ω 5% 0,1W	3311	4822 051 20478	4Ω7 5% 0,1W
3222	4822 117 12955	2K7 1% 0,1W 0805	3312	4822 051 20478	4Ω7 5% 0,1W
3223	4822 117 10965	18K 1% 0,1W	3313	4822 117 12955	2K7 1% 0,1W 0805
3224	4822 051 20102	1KΩ 5% 0,1W	3314	4822 117 10833	10KΩ 1% 0,1W
3225	4822 117 10834	47K 1% 0,1W	3316	4822 117 10833	10KΩ 1% 0,1W
3226	4822 117 11503	220Ω 1% 0,1W	3317	4822 117 10834	47KΩ 1% 0,1W
3227	4822 117 11503	220Ω 1% 0,1W	3318	4822 117 10834	47KΩ 1% 0,1W
3228	4822 051 20273	27KΩ 5% 0,1W	3319	4822 117 10833	10KΩ 1% 0,1W
3229	4822 051 20472	4K70 5% 0,1W	3320	4822 051 20101	100Ω 5% 0,1W
3230	4822 051 20472	4K70 5% 0,1W	3321	4822 051 20478	4Ω7 5% 0,1W
3231	4822 051 20472	4K70 5% 0,1W	3324	4822 051 20478	4Ω7 5% 0,1W
3234	4822 117 11503	220Ω 1% 0,1W	3325	4822 117 10833	10KΩ 1% 0,1W
3235	4822 117 11503	220Ω 1% 0,1W	3326	4822 117 10833	10KΩ 1% 0,1W
3236	4822 051 20101	100Ω 5% 0,1W	3329	4822 116 10062	470Ω 50% 16V PTC 0805
3238	4822 117 12955	2K7 1% 0,1W 0805	3402	4822 117 10834	47KΩ 1% 0,1W
3239	4822 117 12955	2K7 1% 0,1W 0805	3404	4822 051 20224	220KΩ 5% 0,1W
3241	4822 051 20105	1MΩ 5% 0,1W	3405	4822 051 20104	100KΩ 5% 0,1W
3247	4822 051 20105	1MΩ 5% 0,1W	3406	4822 051 20154	150KΩ 5% 0,1W
3249	4822 051 20008	0Ω JUMP. (0805)	3408	4822 051 20273	27KΩ 5% 0,1W
3260	4822 051 20223	22KΩ 5% 0,1W	3411	4822 117 10834	47KΩ 1% 0,1W
3263	4822 051 20223	22KΩ 5% 0,1W	3412	4822 117 10834	47KΩ 1% 0,1W
3266	4822 051 20223	22KΩ 5% 0,1W	3430	4822 051 20109	10Ω 5% 0,1W
3269	4822 051 20223	22KΩ 5% 0,1W	3431	4822 117 10834	47KΩ 1% 0,1W
3270	4822 051 20122	1K20 5% 0,1W	3432	4822 117 10834	47KΩ 1% 0,1W
3271	4822 117 11383	12KΩ 1% 0,1W	3433	4822 117 10834	47KΩ 1% 0,1W
3272	4822 117 11383	12KΩ 1% 0,1W	3462	4822 051 20104	100KΩ 5% 0,1W
3275	4822 051 20472	4K70 5% 0,1W	3463	4822 051 20104	100KΩ 5% 0,1W
3276	4822 117 11139	1K5 1% 0,1W	3464	4822 051 20104	100KΩ 5% 0,1W
3277	4822 051 20122	1K20 5% 0,1W	3465	4822 117 10834	47KΩ 1% 0,1W
3278	4822 117 11149	82KΩ 1% 0,1W	3466	4822 117 10834	47KΩ 1% 0,1W
3279	4822 117 10833	10KΩ 1% 0,1W	3467	4822 051 20472	4K70 5% 0,1W
3280	4822 117 10834	47KΩ 1% 0,1W	3470	4822 051 20104	100KΩ 5% 0,1W
3281	4822 051 20472	4K70 5% 0,1W	3471	4822 117 10833	10KΩ 1% 0,1W
3282	4822 051 20331	330Ω 5% 0,1W	3472	4822 051 20102	1KΩ 5% 0,1W
3283	4822 051 20331	330Ω 5% 0,1W	3473	4822 117 10834	47KΩ 1% 0,1W
3284	4822 051 20331	330Ω 5% 0,1W	3474	4822 051 20109	10Ω 5% 0,1W
3285	4822 051 20478	4R70 5% 0,1W	3475	4822 051 20109	10Ω 5% 0,1W
3286	4822 117 10833	10KΩ 1% 0,1W	3476	4822 051 20008	0Ω JUMP. (0805)
3287	4822 117 10833	10KΩ 1% 0,1W	3477	4822 051 20008	0Ω JUMP. (0805)
3288	4822 051 20333	33KΩ 5% 0,1W	3478	4822 051 20109	10Ω 5% 0,1W
3289	4822 051 20105	1MΩ 5% 0,1W	3479	4822 051 20109	10Ω 5% 0,1W
3291	4822 051 20105	1M00 5% 0,1W	3480	4822 051 20331	330Ω 5% 0,1W
3292	4822 051 20008	0Ω JUMP. (0805)	3485	4822 051 20224	220KΩ 5% 0,1W
3293	4822 117 11139	1K5 1% 0,1W	3486	4822 051 20273	27KΩ 5% 0,1W
3294	4822 051 20224	220KΩ 5% 0,1W	3488	4822 117 10833	10KΩ 1% 0,1W
3295	4822 051 20104	100KΩ 5% 0,1W	3489	4822 051 20334	330KΩ 5% 0,1W
3296	4822 051 20224	220KΩ 5% 0,1W	3501	4822 051 20101	100Ω 5% 0,1W

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3502	4822 051 20008	0Ω JUMP. (0805)	3653	4822 117 10834	47KΩ 1% 0,1W
3503	4822 051 20102	1KΩ 5% 0,1W	3654	4822 117 10834	47KΩ 1% 0,1W
3504	4822 051 20471	470Ω 5% 0,1W	3658	4822 116 10063	8,2Ω 25% 30V PTC
3505	4822 051 20101	100Ω 5% 0,1W	3659	4822 117 10834	47KΩ 1% 0,1W
3506	4822 051 20102	1KΩ 5% 0,1W	3660	4822 116 10063	8,2Ω 25% 30V PTC
3507	4822 051 20102	1KΩ 5% 0,1W	3665	4822 051 20008	0Ω JUMP. (0805)
3509	4822 051 20008	0Ω JUMP. (0805)	3700	4822 051 20273	27KΩ 5% 0,1W
3510	4822 117 11449	2K2 1% 0,1W	3701	4822 051 20008	0Ω JUMP. (0805)
3511	4822 051 20101	100Ω 5% 0,1W	3702	4822 051 20122	1K2 5% 0,1W
3512	4822 051 20101	100Ω 5% 0,1W	3703	4822 051 20334	330KΩ 5% 0,1W
3513	4822 051 20472	4K7 5% 0,1W	3704	4822 051 20822	8K20 5% 0,1W
3514	4822 051 20101	100Ω 5% 0,1W	3705	4822 117 10965	18KΩ 1% 0,1W
3515	4822 051 20101	100Ω 5% 0,1W	3709	4822 051 20334	330KΩ 5% 0,1W
3516	4822 051 20101	100Ω 5% 0,1W	3710	4822 051 20822	8K2 5% 0,1W
3517	4822 051 20101	100Ω 5% 0,1W	3711	4822 051 20122	1K2 5% 0,1W
3518	4822 117 10834	47KΩ 1% 0,1W	3712	4822 051 20104	100KΩ 5% 0,1W
3524	4822 117 10834	47KΩ 1% 0,1W	3713	4822 051 20104	100KΩ 5% 0,1W
3527	4822 051 20101	100Ω 5% 0,1W	3714	4822 051 20104	100KΩ 5% 0,1W
3528	4822 051 20102	1KΩ 5% 0,1W	3715	4822 051 20104	100KΩ 5% 0,1W
3529	4822 117 10834	47KΩ 1% 0,1W	3716	4822 051 20109	10Ω 5% 0,1W
3530	4822 117 10834	47KΩ 1% 0,1W	3719	4822 051 20008	0Ω JUMP. (0805)
3531	4822 051 20472	4K7 5% 0,1W	3812	4822 051 20104	100KΩ 5% 0,1W
3532	4822 051 20101	100Ω 5% 0,1W	3815	4822 117 10834	47KΩ 1% 0,1W
3533	4822 051 20101	100Ω 5% 0,1W	3817	4822 051 20228	2Ω 5% 0,1W
3534	4822 051 20101	100Ω 5% 0,1W	3818	4822 117 10834	47KΩ 1% 0,1W
3535	4822 051 20101	100Ω 5% 0,1W	3819	4822 051 20472	4K7 5% 0,1W
3536	4822 051 20101	100Ω 5% 0,1W	3820	4822 051 20331	330Ω 5% 0,1W
3537	4822 051 20101	100Ω 5% 0,1W	3821	4822 051 20101	100Ω 5% 0,1W
3538	4822 051 20101	100Ω 5% 0,1W	3822	4822 051 20331	330Ω 5% 0,1W
3539	4822 051 20472	4K7 5% 0,1W	3823	4822 051 20331	330Ω 5% 0,1W
3540	4822 051 20472	4K7 5% 0,1W	3824	4822 051 20472	4K7 5% 0,1W
3541	4822 051 20008	0Ω JUMP. (0805)	3825	4822 051 20101	100Ω 5% 0,1W
3550	4822 051 20471	470Ω 5% 0,1W	3829	4822 051 20472	4K7 5% 0,1W
3552	4822 117 10834	47KΩ 1% 0,1W	3830	4822 117 11503	220Ω 1% 0,1W
3553	4822 117 10834	47KΩ 1% 0,1W	3831	4822 117 11503	220Ω 1% 0,1W
3554	4822 051 20224	220KΩ 5% 0,1W	3832	4822 051 20331	330Ω 5% 0,1W
3555	4822 051 20224	220KΩ 5% 0,1W	3833	4822 117 10834	47KΩ 1% 0,1W
3556	4822 051 20101	100Ω 5% 0,1W	3834	4822 051 20102	1KΩ 5% 0,1W
3557	4822 051 20273	27KΩ 5% 0,1W	3835	4822 117 10833	10KΩ 1% 0,1W
3558	4822 117 10834	47KΩ 1% 0,1W	3836	4822 117 10834	47KΩ 1% 0,1W
3559	4822 051 20223	22KΩ 5% 0,1W	3837	4822 051 20101	100Ω 5% 0,1W
3560	4822 051 20008	0Ω JUMP. (0805)	3838	4822 051 20102	1KΩ 5% 0,1W
3561	4822 051 20101	100Ω 5% 0,1W	3840	4822 051 20102	1KΩ 5% 0,1W
3562	4822 051 20101	100Ω 5% 0,1W	3841	4822 051 20102	1KΩ 5% 0,1W
3563	4822 051 20223	22KΩ 5% 0,1W	3842	4822 051 20105	1MΩ 5% 0,1W
3564	4822 051 20472	4K7 5% 0,1W	3851	4822 051 20008	0Ω JUMP. (0805)
3565	4822 051 20223	22KΩ 5% 0,1W	3852	4822 117 10833	10KΩ 1% 0,1W
3567	4822 051 20102	1KΩ 5% 0,1W	3855	4822 117 10833	10KΩ 1% 0,1W
3568	4822 051 20472	4K7 5% 0,1W	3858	4822 051 20008	0Ω JUMP. (0805)
3569	4822 051 20472	4K7 5% 0,1W	3859	4822 051 20008	0Ω JUMP. (0805)
3572	4822 051 20101	100Ω 5% 0,1W	3862	4822 051 20471	470Ω 5% 0,1W
3573	4822 051 20101	100Ω 5% 0,1W	3863	4822 051 20101	100Ω 5% 0,1W
3574	4822 051 20223	22KΩ 5% 0,1W	3864	4822 051 20104	100KΩ 5% 0,1W
3575	4822 051 20223	22KΩ 5% 0,1W	3865	4822 051 20101	100Ω 5% 0,1W
3576	4822 117 10834	47KΩ 1% 0,1W	3866	4822 051 20101	100Ω 5% 0,1W
3577	4822 051 20101	100Ω 5% 0,1W	3872	4822 051 20101	100Ω 5% 0,1W
3578	4822 051 20472	4K7 5% 0,1W	3874	4822 051 20008	0Ω JUMP. (0805)
3579	4822 051 20472	4K7 5% 0,1W			
3580	4822 051 20008	0Ω JUMP. (0805)			
3652	4822 051 20102	1KΩ 5% 0,1W			

22RC759/00

					
5172	4822 157 10975	120UH 10%	7279	4822 209 33985	TDA8579T/N1
5173	4822 157 71184	10UH 10%	7290	5322 130 60508	BC857B
5174	4822 157 71206	BLM21A601SPT	7291	5322 130 60508	BC857B
5200	4822 157 71206	BLM21A601SPT	7301	4822 130 60511	BC847B
5201	4822 242 10565	K1101-95880-211	7302	4822 209 16278	TDA1561Q/N2
5202	4822 157 71184	10UH 10%	7303	4822 209 16278	TDA1561Q/N2
5203	4822 157 10976	68UH 10%	7401	4822 209 14814	L4949NP
5204	4822 157 71206	BLM21A601SPT	7402	4822 209 16279	SAA1305T
5205	4822 157 10977	4,7UH 10%	7404	4822 209 14815	VN06SP
5275	4822 242 81164	AT-51(11.2896MHZ)	7407	4822 209 15826	L9820D
5276	4822 157 71206	BLM21A601SPT	7409	4822 130 60511	BC847B
5277	4822 157 71206	BLM21A601SPT	7410	4822 130 60511	BC847B
5278	4822 157 71206	BLM21A601SPT	7418	4822 209 33162	MC4558IDT
5400	4822 157 70935	COIL ASSY 97UH 10A	7430	4822 209 16281	LF85CDT
5402	4822 242 10398	TJ125DHB2 (32,768KHZ)	7500	4822 209 31553	FCB61C65LL-70T
5500	4822 157 71206	BLM21A601SPT	7501	4822 209 16282	P51XAG30KFBD
5550	4822 157 10976	68UH 10%	7503	5322 209 11102	HEF4052BT
5551	4822 157 71206	BLM21A601SPT	7504	5322 209 60424	74HC573D
5650	4822 242 10709	CSTCS6.00MG-TC	7505	4822 209 30426	74HC00D
5651	4822 157 71206	BLM21A601SPT	7506	4822 209 91136	PC74HC259T
5800	4822 209 16297	7299-1	7507	4822 209 14819	74HC251D
			7508	4822 209 16719	M27C2001-90C6
6200	4822 130 10654	BAT254	7550	4822 209 16721	P87CE560EFFB
6300	4822 130 83757	BAS216	7552	5322 130 60508	BC857B
6301	4822 130 83757	BAS216	7650	4822 209 32743	MSM6307GS
6401	4822 130 10488	S3G			
6402	4822 130 10655	1SR154-400	7700	4822 209 15349	TEA0676T/V1
			7801	4822 130 60511	BC847B
6406	4822 130 10656	UDZ20B	7802	5322 130 63033	BCP56
6407	4822 130 10655	1SR154-400	7803	4822 130 60511	BC847B
6410	4822 130 83757	BAS216	7804	4822 130 60511	BC847B
6413	4822 130 11174	LSA670-JM			
6551	4822 130 10654	BAT254	7805	4822 130 60511	BC847B
			7820	4822 130 60511	BC847B
6552	4822 130 10654	BAT254			
6653	4822 130 10657	PTZ5.6A			
6654	4822 130 10657	PTZ5.6A			
6803	4822 130 10185	UDZ5.6B			
6804	4822 130 10185	UDZ5.6B			
6805	4822 130 10185	UDZ5.6B			
6806	4822 130 10185	UDZ5.6B			
6807	4822 130 10185	UDZ5.6B			
6809	4822 130 10185	UDZ5.6B			
6810	4822 130 10185	UDZ5.6B			
6812	4822 130 11175	LST670-JK			
6813	4822 130 11175	LST670-JK			
6814	4822 130 10185	UDZ5.6B			
6815	4822 130 10185	UDZ5.6B			
6850	4822 130 83757	BAS216			
6852	4822 130 10185	UDZ5.6B			
					
7172	4822 130 60511	BC847B			
7200	4822 130 60511	BC847B			
7201	4822 209 15479	SAA7701H/N212			
7202	4822 209 33985	TDA8579T/N1			
7204	5322 209 14481	HEF4053BT			
7275	4822 130 60511	BC847B			
7276	4822 130 60511	BC847B			
7277	4822 209 16148	SAA7367T			
7278	4822 209 33985	TDA8579T/N1			

Technician's Remarks	

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KiVi Service GmbH
Windmühlenstr. 41 · 31178 Giesen/Emmerke
Tel.: 0 51 21 / 6 00 20 · Fax 0 51 21 / 6 0 02 54

Car Cassette Deck SCA-R3.3 SCA-R3.1

Service Manual

12 V 

1. GENERAL

The SCA-R3.3 is a full-logic Servo Controlled Autoreverse tape deck which is fully μ P-controlled. The deck is controlled by the headset via the standardized I²C bus.
Version -R3.3 is the standard version with an 8-pole MOLEX PICO FLEX interface connector.
The SCA-R3.1 has an 11-pole MOLEX SPOX interface cable.
Mechanically the -R3.1 version is the same as the -R3.3.

2. TECHNICAL DATA

Operating voltages	:	10.0 - 16VDC (V1) (13.2VDC nom.) 4.75 - 5.25VDC (V2) (5.0VDC nom.)
Tape speed	:	4.76 cm/s (-1...+3%)
Number of tracks	:	2 x 2
Wow and Flutter	:	≤ 0.3% DIN weighted
S/N ratio	:	≥ 46dB (measured at preamplifier)
Crosstalk suppression (track 2-3)	:	≥ 50dB
Channel separation (track 1-2/3-4)	:	≥ 40dB
Fast winding time	:	≤ 100 sec (C-60)
Bus interface	:	I ² C
Weight (only mechanism)	:	400 g

3. MAINTENANCE

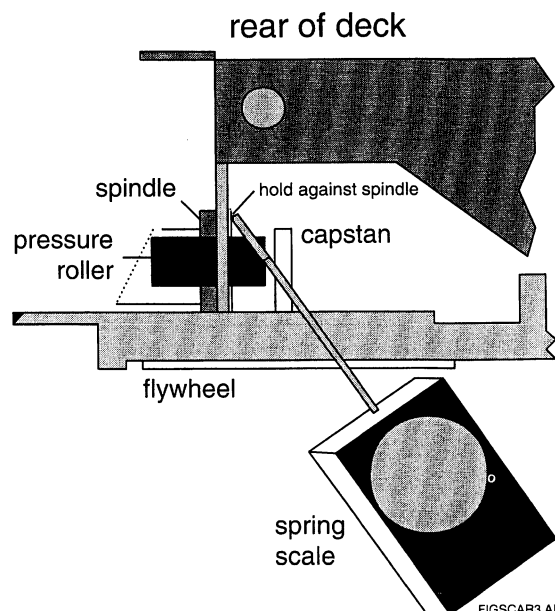
The tape deck mechanism requires periodic cleaning.

3.1 Cleaning cassette

- Use drop-in cleaning cassette SBC114 (4822 389 20035)

3.2 Cleaning with alcohol or spirit

- Cleaning with alcohol or spirit is also possible.
- Especially the following parts need cleaning:
 - Playback head pos. 28.
 - Capstans pos. 9/11 and pressure roller assy pos. 42.
 - Pulley pos. 10 and motor pulley.



4. ADJUSTMENTS AND CHECKS

4.1 Equipment

Equipment required:

- Universal test cassette SBC419
- 4822 397 30069
- Universal test cassette SBC420
- 4822 397 30071
- Friction test cassette 811/CTM
- 4822 395 30054
- Spring scale 50-500g
- 4822 395 80028
- Jig / puller for clutch
4822 395 60039
- Wow & Flutter meter
- AC mV meters

4.2 Roller pressure

The pressure on the capstan should be 250 - 350 grammes (2.5 - 3.5 N).

This pressure is measured as follows (in NOR and REV play):

- Select NOR play mode.
- Push the back pressure roller spindle of pos. 42 back by means of the spring scale.
- The back pressure roller can be reached via the opening at the rear of the deck (see figure i).

Figure i

- At the point where the pressure roller and capstan (of flywheel pos. 11) just disengage the spring scale should be read.
- If the pressure is incorrect, replace roller assy.
- Select REV play mode.
- Push the front pressure roller spindle of pos. 42 back by means of the spring scale.
- At the point where the pressure roller and capstan (of flywheel pos. 9) just disengage the spring scale should be read.
- If the pressure is incorrect, replace roller assy.

4.3 Take-up wheels pos. 21

- Insert friction test cassette 811/CTM (NOR and REV).
- Play mode take-up torque should be 3.5 - 7.5 mNm.
- Fast wind torque should be 4 - 15 mNm.
- If the torque is incorrect, replace take-up wheel(s) pos. 21.

4.4 Wow & Flutter / tape speed

This check should be carried out on a COMPLETE car radio set; proceed as follows:

- Connect the wow & flutter meter to the LS outputs.
- Insert test cassette SBC419 or SBC420 and play the 3,150 Hz signal.
- The wow & flutter value should be $\leq 0.3\%$ (DIN weighted).

- The tape speed should be 4.76 cm/s (-1...+3%).
- The tape speed can be adjusted with the screw of the capstan motor.
- This screw can be reached via the hole in the pcb pos. 86 (see figure ii).
- Use a screw driver of 1.8mm with an insulated shaft.

In case of an excessive wow & flutter value, first clean the deck as described, then check the following parts for correct functioning:

- Motors pos. 1 and 12
- Pressure rollers of pos. 42
- Belt pos. 3
- Flywheels pos. 9 and 11
- Diverting wheel (pulley) pos. 10
- All gears

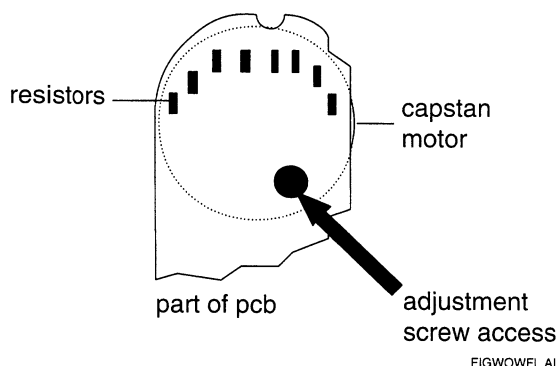


Figure ii

5. DISASSEMBLY PROCEDURE

5.1 Important

Before disassembling the tape deck, take care that the cassette holder pos. 51/52 is in the **eject** position.

Handle the cassette lift assy carefully to prevent bending it.

For re-assembling, follow the procedures in reverse order. Take care that the wires, cams etc. are in the right position again after re-assembling.

For the exact position of the parts, refer to the exploded view.

5.2 Loading position

Take care that the cassette lift and the transport disc pos. 33 are in the right position before to put it in the load position!

Be careful not to bend metal parts unnecessarily and not to damage the flywheels and belt!

5.3 Switches

To remove the

- PLAY switch pos. 100,
 - STANDBY switch pos. 101,
 - INSERT switch pos. 102 and/or
 - ME/CR switch pos. 103,
- carefully slide the switch(es) concerned out of the holder.

5.4 Capstan motor pos. 1

- Remove the belt pos. 3.
- Remove the screw pos. 88.
- Carefully slide out the pcb fixation pos. 58 and lift up the pcb pos. 86. Take care not to damage the black pcb supports!
- Unscrew the two screws pos. 2.
- Unsolder the capstan motor connections and take out the capstan motor.
- When re-assembling, take care that the cam on the chassis graps in the spare screw hole of the motor.

5.5 Servo motor pos. 12

- Remove the screw pos. 88.
- Carefully slide out the pcb fixation pos. 58 and lift up the pcb pos. 86.
- Take care not to damage the black pcb supports!
- Unscrew the two screws pos. 14.
- Unsolder the servo motor connections and take out the servo motor.
- When re-assembling, take care that the cam on the chassis graps in the hole of the motor.

5.6 Pressure rollers pos. 42

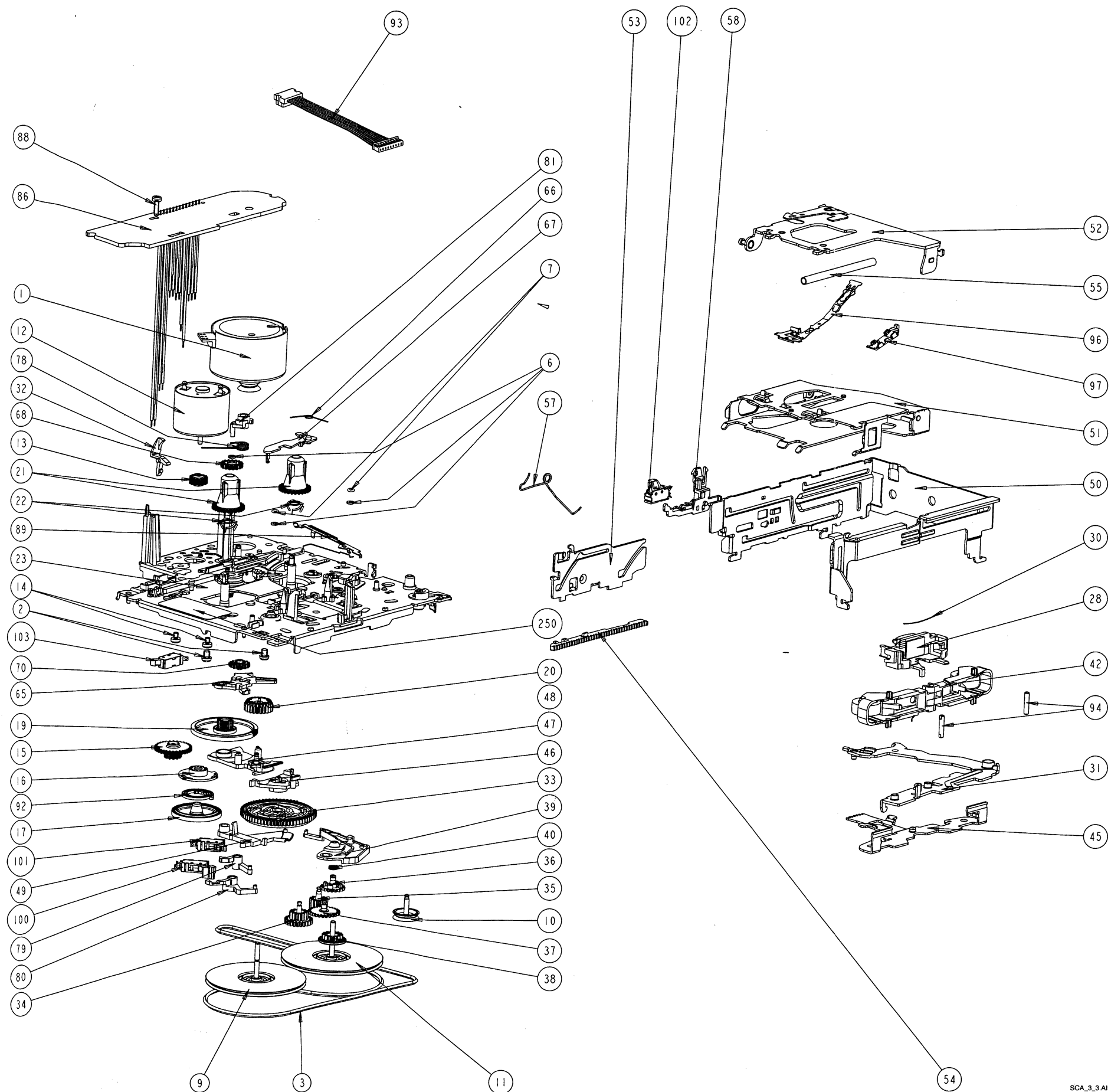
- Remove the holders with the pressure rollers by uncliccking them from the centre pivot which is at the right side of the base plate pos. 23.

5.7 Head assy pos. 28

- Remove the pressure roller assy as described in section 5.6.
- Remove the spring pos. 30.
- Remove the head assy from the holder of the base plate pos. 23.

- continued on page 4 -

6. EXPLODED VIEW SCA-R3.3



5.8 Flywheel / gear assy (NOR) pos. 11

- Remove the belt pos. 3.
- Remove the oil protection ring pos. 7 from the capstan of flywheel pos. 11.
- Remove fixation retaining ring pos. 6.
- *Note: when re-assembling, use a new retaining ring*, and take care that the gear does not become damaged. Put the flywheel spindle into the bearing carefully and turn it slightly.
- Take out the flywheel.

5.9 Flywheel (REV) pos. 9

- *First* move the cassette holder to the **load** position by turning gear assy pos. 16 to the right. Hold the lever on pos. 52 in such a way that the cassette holder is unblocked and can move backward.
- When the cassette holder reaches the load position, the capstan of flywheel pos. 9 can be reached.
- Remove the belt pos. 3.
- Remove the oil protection ring pos. 7 from the capstan of flywheel pos. 9.
- Remove fixation retaining ring pos. 6.
- *Note: when re-assembling, use a new retaining ring!*
- Take out the flywheel.

5.10 Take-up wheel (NOR) / back tension spring pos. 21

- The cassette holder assy pos. 51/52 must be in the **eject** position. If the holder assy isn't yet, turn gear assy pos. 16 to the left.
- When the cassette holder reaches the load position, take-up wheel (NOR) can be reached.
- Take off take-up wheel by pulling it upward and holding the fixation snaps of the pivot together simultaneously.
- *Note: When re-assembling, grease the pivot.*

5.11 Take-up wheel (REV) / back tension spring pos. 21

- The cassette holder assy pos. 51/52 must be in the **load** position. If the holder assy isn't yet, turn gear assy pos. 16 to the right.
- When the cassette holder reaches the load position, take-up wheel (REV) can be reached.

- Take off take-up wheel by pulling it upward and holding the fixation snaps of the pivot together simultaneously.
- *Note: When re-assembling, grease the pivot.*

5.12 Transport disc pos. 33

- Remove belt pos. 3.
- Remove switching lever pos. 49 (*note: Use the right tools*).
- Remove play switch lever pos. 80.
- Remove standby switch lever pos. 79.
- Move the arm of switch lever assy pos. 39 away from the transport disc.
- Remove intermediate wheel pos. 34.
- Take out transport disc with help of the special jig / puller to release the three snaps. Do not damage the post!
- *Note: the head support should be in the 'standby' position. Grease the head support assy at the right points.*

5.13 Switch lever assy pos. 39 / Switch wheel 1 pos. 37

- Remove flywheel (NOR) pos. 11 as described in section 6.
- Remove switch wheel 1 pos. 37 with help of the special jig/puller.
- Take out switch lever assy.

5.14 Gear rod pos. 54 / Lift wheel gear pos. 68

- Remove the cassette loading assy pos. 50 as described before.
- Take out gear rod.
- Remove fixation retaining ring pos. 6.
- *Note: when re-assembling, use a new ring!*
- Take out lift wheel gear.

5.15 Servo drive gear assy

- *Note: Use the right tools.*
- Remove damping gear assy pos. 16.
- Remove switching lever pos. 49.
- Remove swivel level assy pos. 47.
- Take out connection wheel pos. 19.
- Take out gear cluster pos. 15.
- *Important: when re-assembling, oil the gear bearings.*

5.16 Diverting wheel pos. 10

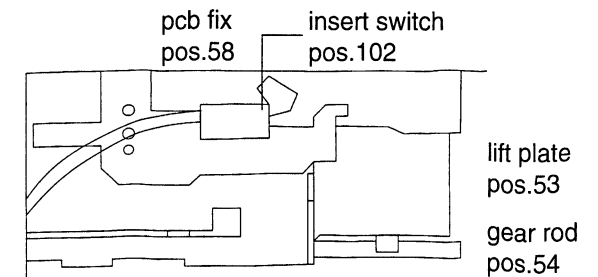
- Remove belt pos. 3.
- Remove the diverting wheel with help of special jig / puller.
- *Note: When re-assembling, grease the wheel in accordance with the lubrication overview.*

5.17 Coupling lever assy pos. 65

- *Note: the deck should be in the **eject** position!*
- Remove damping gear assy pos. 16.
- Remove switch lever assy pos. 39 (see '5.13').
- Remove swivel lever assy pos. 47.
- Remove connection wheel assy pos. 19.
- Remove coupling spring pos. 66 and coupling slider pos. 67.
- Take out the coupling lever.

5.18 Re-assembly precautions

When re-assembling the deck, take care of proper mounting of the cassette loading assy. The cam of the lift plate pos. 53 (A in figure iii) should fall into the sleeve of the loading assy plate of pos. 50. The other cam B should fall into the notch of the gear rod. The loading assy plate should match the base plate completely. Bend the three lips back so that the loading assy plate is locked.



cam A of lift plate cam B of lift plate REASS50.AI

Figure iii

The belt should be mounted as indicated in the figure below. Take care that the belt is not twisted, not touched by grease and not damaged by sharp edges of the chassis!

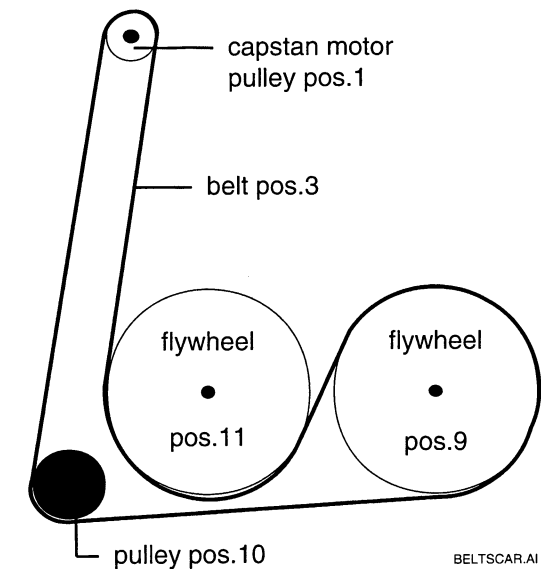
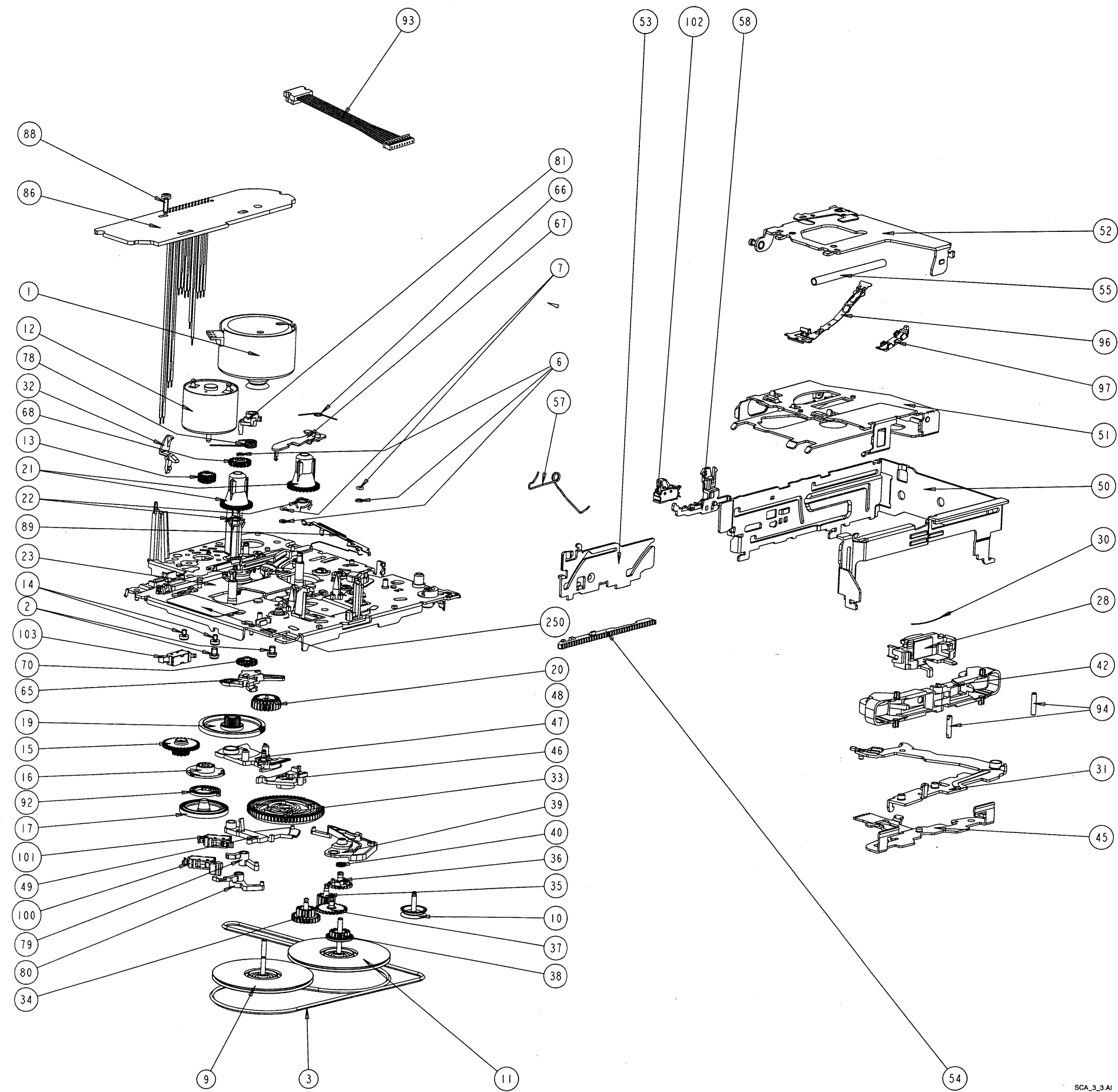
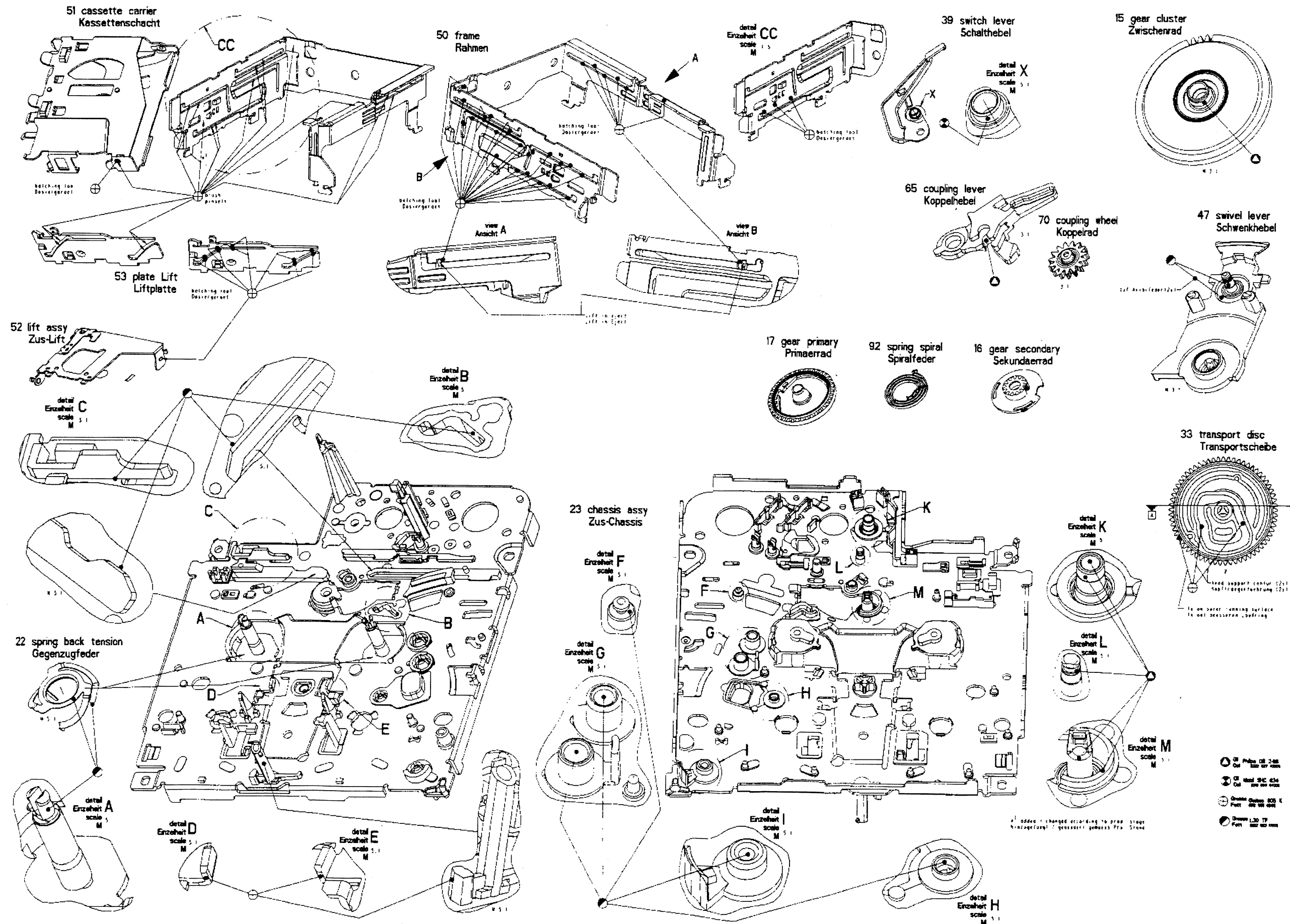


Figure iv

6. EXPLODED VIEW SCA-R3.3

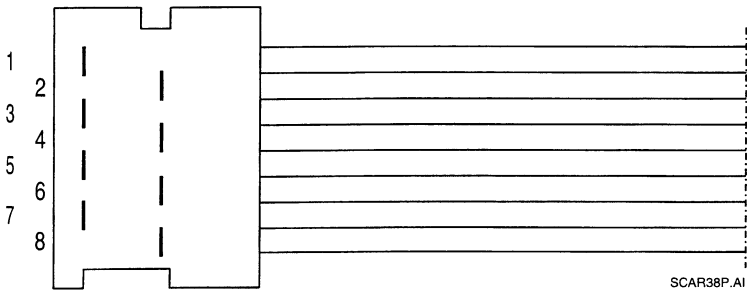


7. LUBRICATION OVERVIEW



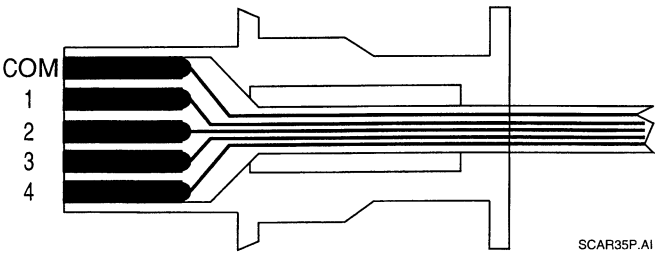
8. CONNECTIONS

8.1 SCA-R3.3 (basic version)



8 POLE CONNECTOR

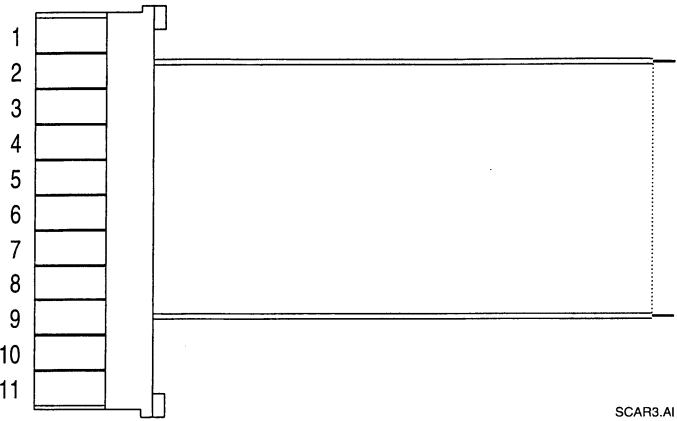
Pin	Signal
1	INSERT SWITCH
2	INSERT SWITCH - COM / GND
3	+ 12VDC
4	SERIAL CLOCK - SCL
5	SERIAL DATA - SDA
6	BUS REQUEST - CRQ
7	+ 5VDC
8	RESET



5 POLE HEAD CONNECTOR

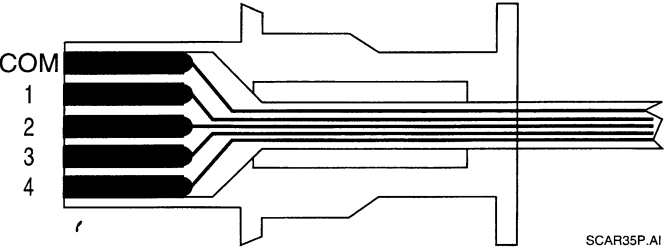
Pin	Signal
COM	COMMON
1	LEFT NOR (FORW.)
2	RIGHT NOR (FORW.)
3	RIGHT REV
4	LEFT REV

8.2 Connections SCA-R3.1



11 POLE CONNECTOR

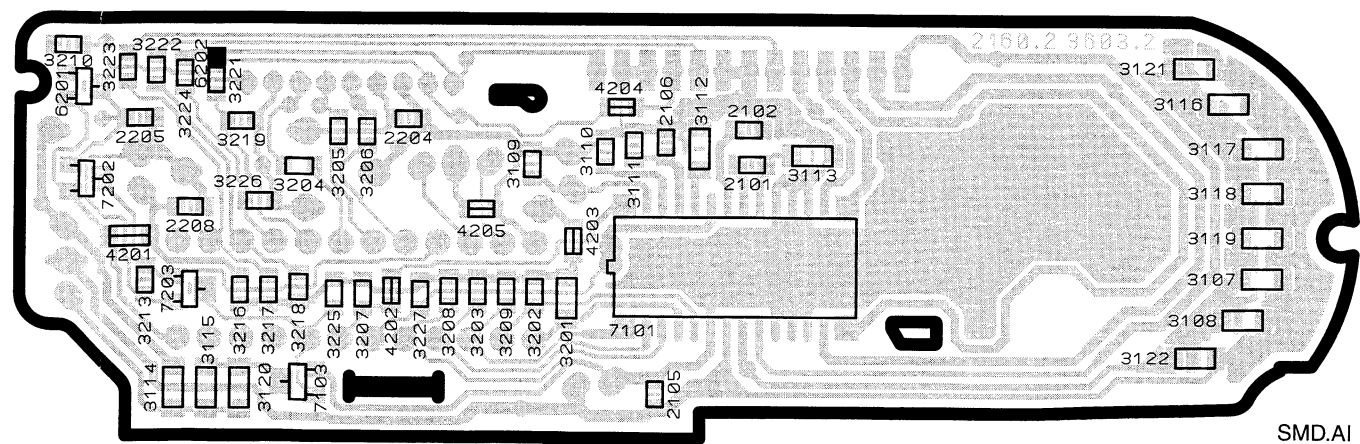
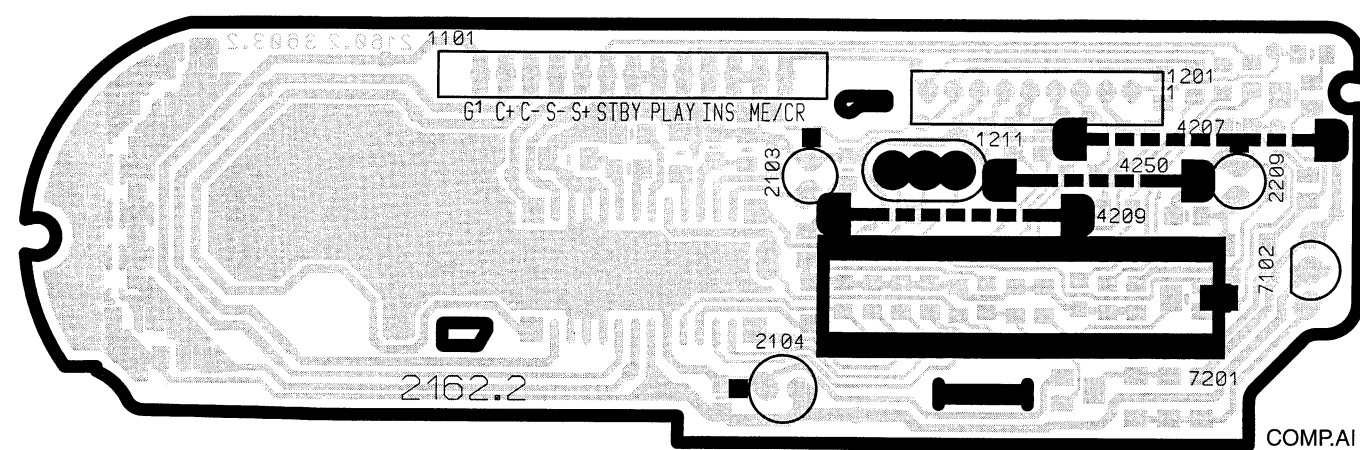
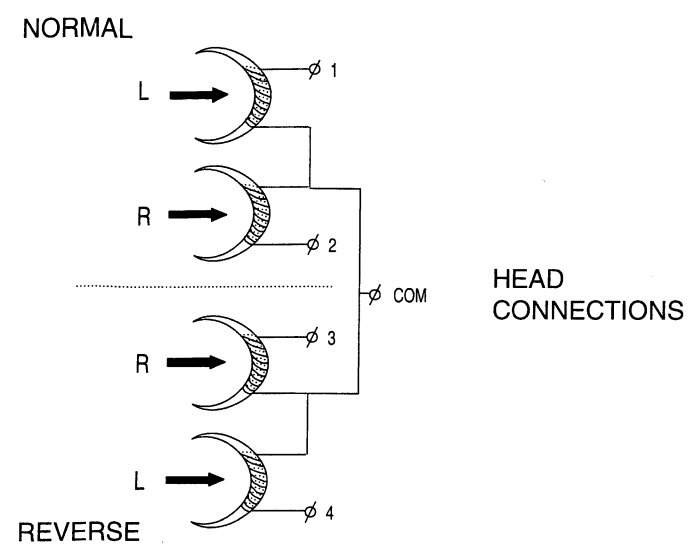
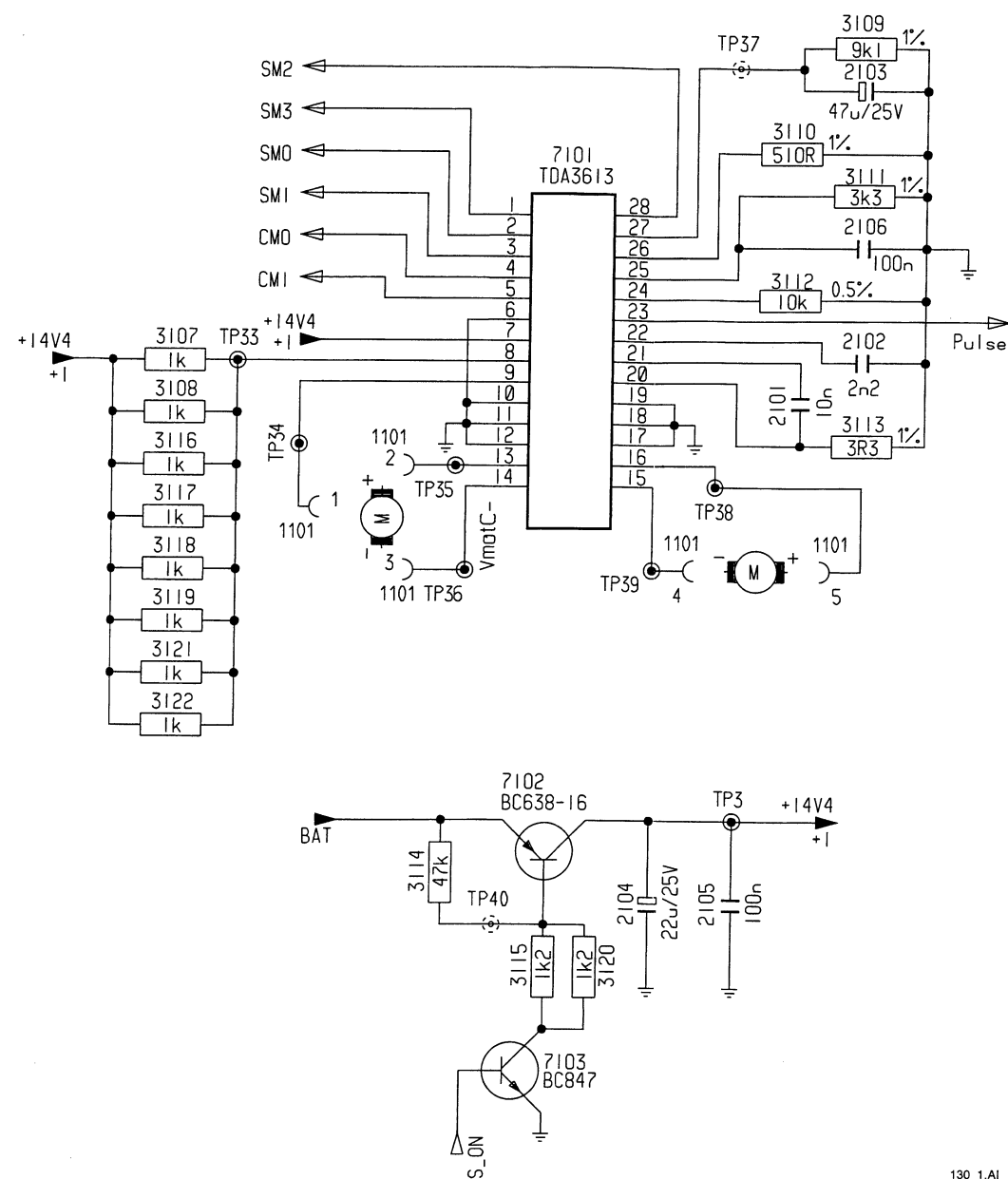
Pin	Signal
1	N.C.
2	INSERT SWITCH
3	INSERT SWITCH - COM / GND
4	+ 12VDC
5	SERIAL CLOCK - SCL
6	SERIAL DATA - SDA
7	BUS REQUEST - CRQ
8	+ 5VDC
9	RESET
10	N.C.
11	N.C.



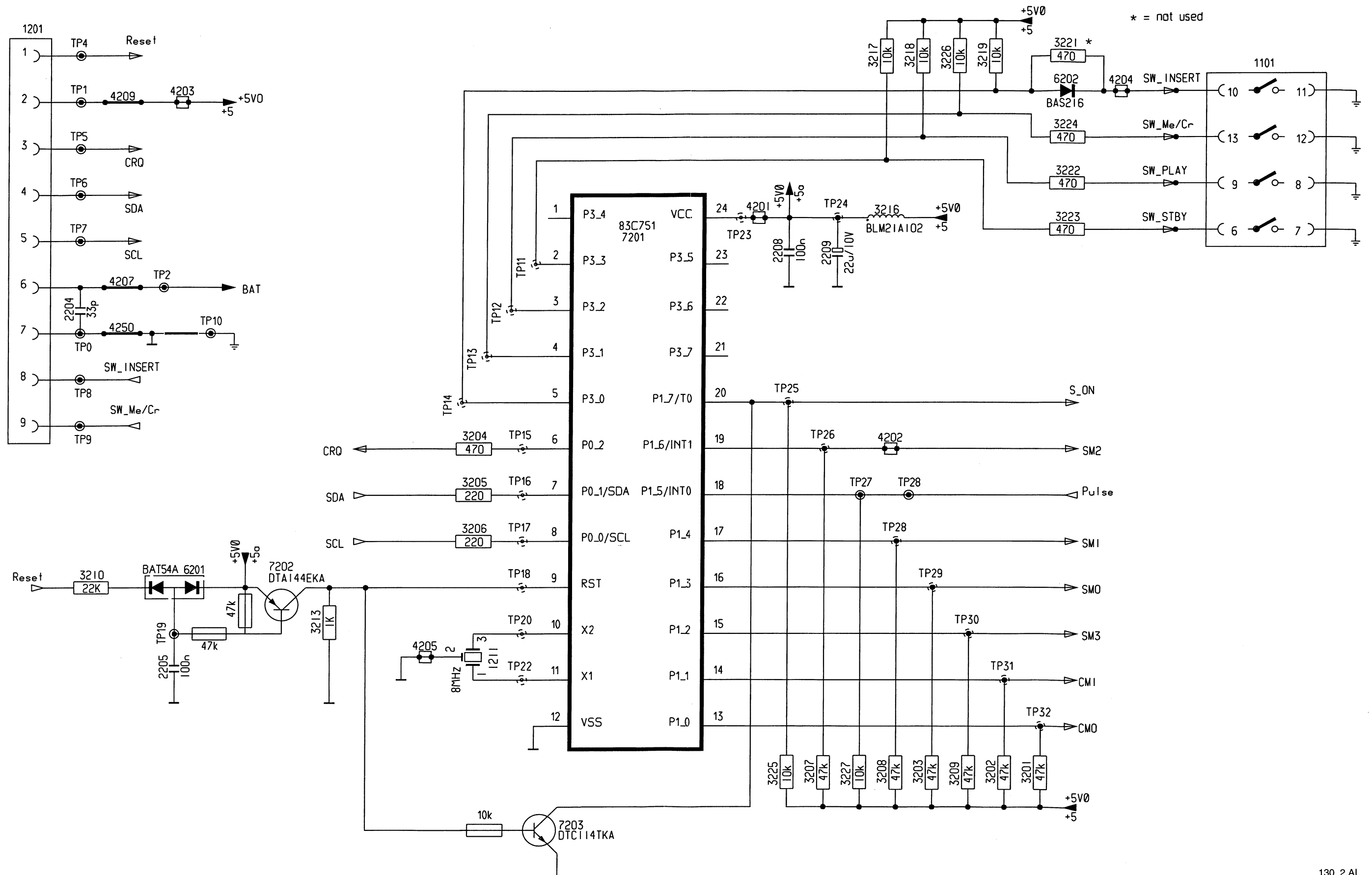
5 POLE HEAD CONNECTOR

Pin	Signal
COM	COMMON
1	LEFT NOR (FORW.)
2	RIGHT NOR (FORW.)
3	RIGHT REV
4	LEFT REV

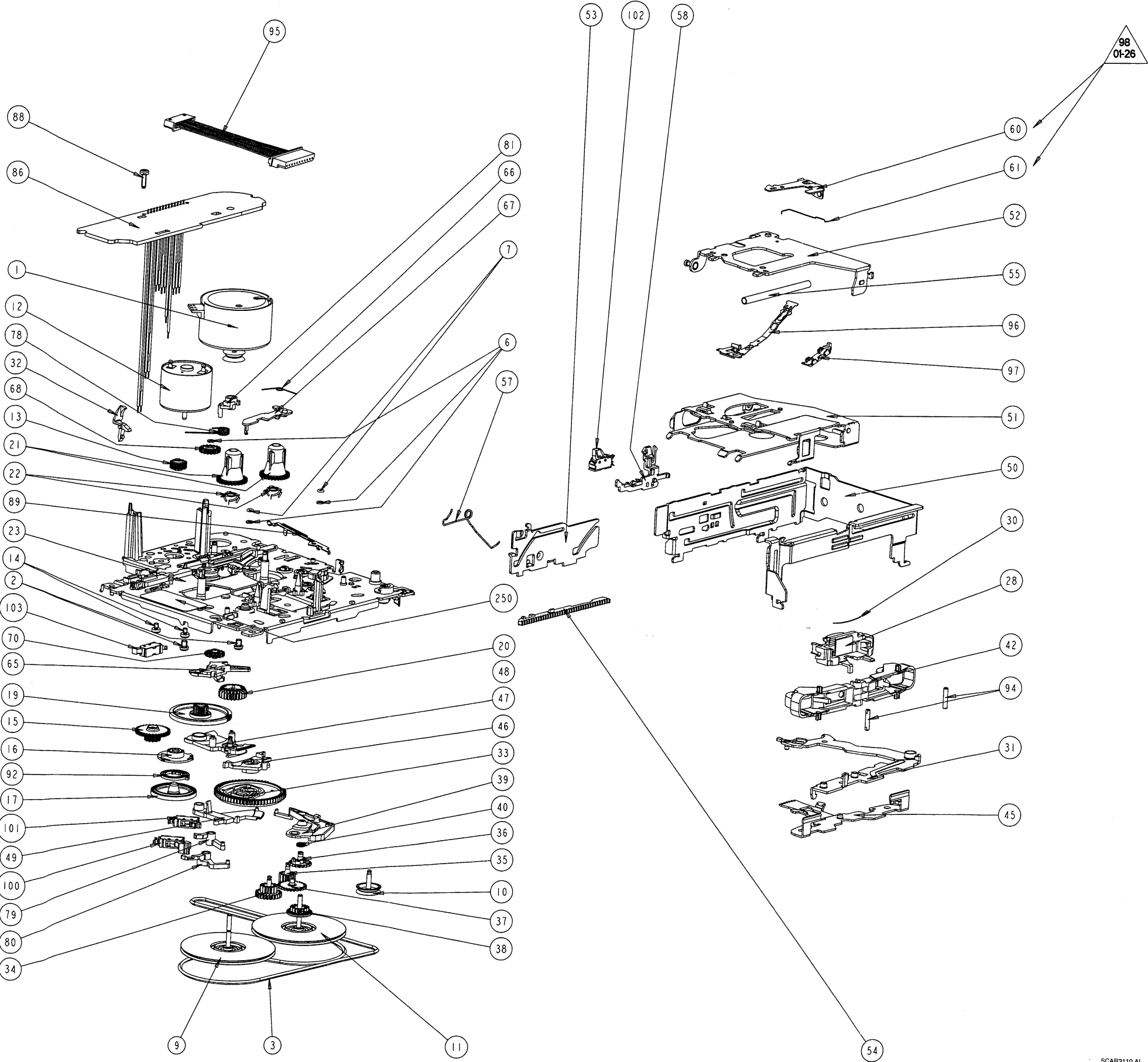
9. ELECTRICAL PART (CIRCUIT DIAGRAM 1 - HEAD CONNECTIONS - PCB LAYOUT)



9. ELECTRICAL PART (CIRCUIT DIAGRAM 2)



10. EXPLODED VIEW SCA-R3.1
(NOTE: for the SCA-R3.3 exploded view refer to section 6.)



11. PARTS LIST

11.1 SCA-R mechanical parts

2	4822 502 12548	Special screw	39	4822 402 10829	Switch lever assy
3	4822 358 10221	Driving belt	42	4822 402 10831	Pinchroller brkt assy
6	4822 532 12841	Fixation retaining ring	45	4822 402 10819	Lever simpson
7	4822 532 12842	Ring oil protection	46	4822 402 10821	Anchor lever
9	4822 528 11176	Flywheel reverse	47	4822 432 11304	Swivel lever assy
10	4822 528 81144	Divertingwheel pulley	49	4822 402 10822	Lever switching
11	4822 528 11183	Flywheel assy normal (with pulley)	50	4822 691 10627	Loading assy
14	4822 502 14467	Screw torx M2x2,5	54	4822 522 10638	Gear rod
15	4822 522 10637	Gear cluster	58	4822 401 11716	Pcb fixation
16	4822 522 10641	Damping gears assy	65	4822 402 10832	Coupling lever assy
19	4822 528 11177	Wheel connection	66	4822 492 11484	Spring coupling
21	4822 528 11178	Take up wheel	67	4822 402 10824	Slider coupling
22	4822 492 11481	Spring back tension	68	4822 522 10639	Lift wheel
30	4822 492 11482	Spring head	78	4822 492 11485	Spring switch loading
31	4822 404 10937	Head support	79	4822 402 10826	Switch lever Standby
32	4822 402 10863	Rocking lever	80	4822 402 10827	Switch lever Play
33	4822 466 11665	Transport disc	81	4822 402 10828	Switch lever Loading
34	4822 528 11179	Wheel intermediate	88	4822 502 21488	ScrewM2x7 Ni tapt.
35	4822 528 11181	Drive wheel	89	4822 460 11098	Blocking disc transp.
37	4822 528 11182	Switch wheel 1			

11.2 SCA-R electrical parts

1	4822 361 11009	Capstan motor assy
12	4822 361 11011	Servo motor assy
28	4822 249 10542	Magnetic head w/flexfoil
86	4822 214 12502	Pcb assy SCA R3.1
93	4822 320 12057	Cable assy SCA R3.3
95	4822 320 12144	Cable assy SCA R3.1
100	4822 276 13913	Switch Play
101	4822 276 13914	Switch Standby
102	4822 276 13915	Switch Insert
103	4822 276 13916	Switch CR/ME
105	4822 214 12503	PCB assy SCA R3.3

Service Manual

12 V 

1. GENERAL

This supplement must be used together with the SCA-R3 service manual 4822 725 25481.

Because of changes and modifications in the meantime, the following parts have been revised and re-written:

- Technical data
- Maintenance
- Check & alignment procedure
- Dis- / Re-assembly procedure

Besides, a detailed 'Functional Description' has been added now. To clarify the descriptions, photographs and drawings are added where necessary.

2. TECHNICAL DATA

Operating voltages	:	10.0 - 16VDC (V1) (13.2VDC nom.) 4.75 - 5.25VDC (V2) (5VDC nom.)
Tape speed	:	4.76 cm/s \pm 3%
Number of tracks	:	2 x 2
Wow and Flutter	:	\leq 0.5% (DIN w.)
S/N ratio	:	\geq 46dB (preampl.)
Crosstalk suppression (track 2-3)	:	\geq 50dB
Channel separation (track 1-2/3-4)	:	\geq 40dB
Fast winding time	:	\leq 100s (C-60)
Bus interface	:	I ² C
Weight (only mechanism)	:	400 g

3. DETAILED FUNCTIONAL DESCRIPTION

3.1 Function / Switch Status Overview

Position	Standby Switch	Play Switch	Insert Switch
Eject	Open	Closed	Closed
Standby	Open	Open	Open
Wind	Closed	Open	Open
Play	Closed	Closed	Open

3.2 Eject Position

The transport disc (pos. 33) must be in the position, shown in fig. 1.

***NEVER** turn the transport disc, unless it is not in the 'Eject' position (yet)! If not in 'Eject' position, turn the NOR fly-wheel pos. 11 counter-clockwise until the transport disc reaches the 'Eject' position.*

After this position has been reached, don't turn it anymore!

3.3 Insert Function

When a cassette is inserted, the 'Insert' switch is opened; the servo motor is turning clockwise so that the cassette lift moves backward until the 'Play' switch is opened.

At that moment, the servo motor stops and the deck is in 'Standby' position. Refer to fig. 2, especially to the 'Standby' switch position.

3.4 Standby-to-Play Function

The capstan motor turns in clockwise direction until the deck reaches the "Wind" position (FF / REW - fig. 3/4) and the standby switch closes. At the same time the coupling assy (pos. 65 and 70) and gear rod pos. 54 are uncoupled from the servo motor and swivel lever pos. 47 is released now.

The servo motor pos. 12 turns the swivel lever until it grasps into take-up wheel gear pos. 21. The rotation direction of the servo motor, together with the movement direction of the swivel lever, determines the play direction of the deck (NOR or REV).

The capstan motor turns clockwise until the transport disc reaches the "Play" position (Nor / Rev - fig. 5/6). Now both the standby – and play switches are closed.

The servo motor starts to turn and tightens the tape.

Thereafter, the capstan motor starts to turn counter-clockwise for tape transport and uncouples the transport disc; simultaneously the servo motor now winds the tape (play function).

3.5 Tape End Detection

When the tape reaches the end when playing, this is detected by means of servo motor pulses. The microprocessor gives the command to the servo motor to change its rotation direction.

3.6 Play-to-Standby Function

The capstan motor now starts turning clockwise so that the transport disc assy is coupled again; the transport disc turns until both the standby- and play switches are open (refer to fig. 2). During the transport disc rotation, the coupling assy (pos. 65 and 70) and gear rod pos. 54 are coupled again to the servo motor and the swivel lever is disabled from the take-up wheel.

3.7 Standby-to-Eject Function

The capstan motor turns until the transport disc is in the right position to couple the loading assy. The servo motor starts turning so that the loading assy moves forward until the insertion switch is closed. At that moment the deck reaches the "eject" position and the cassette is ejected.

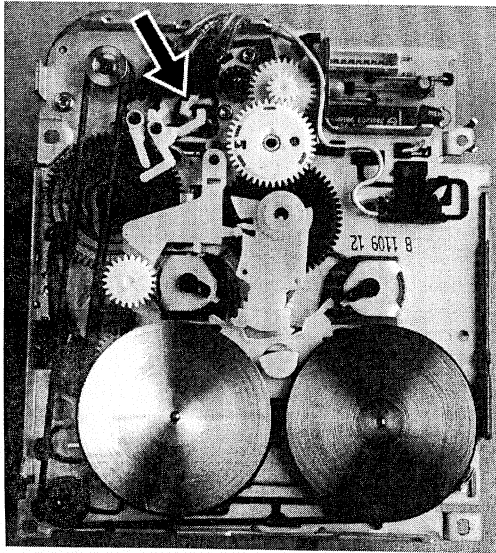


Figure 1

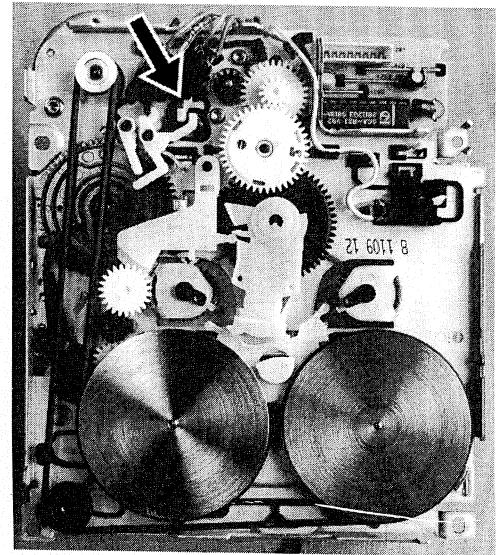


Figure 2

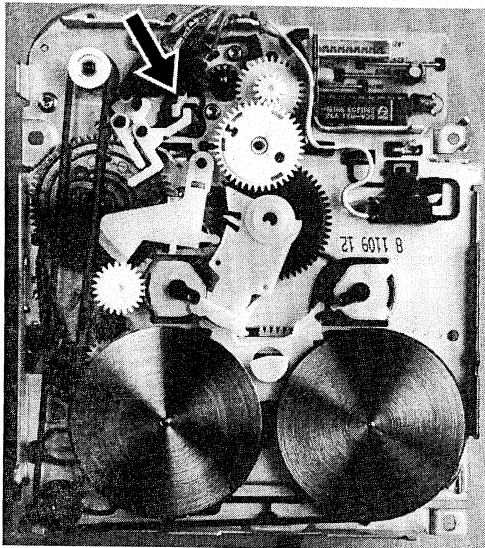


Figure 3

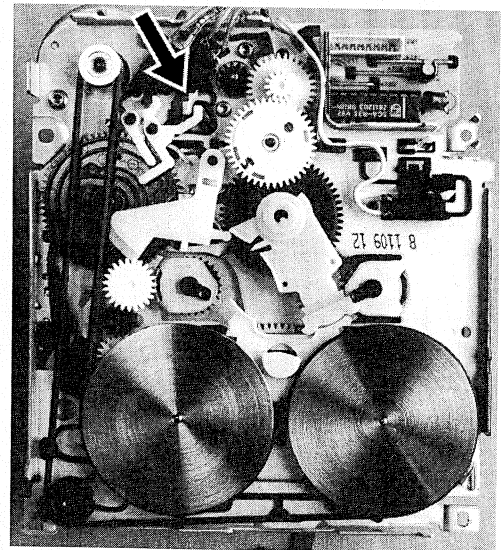


Figure 4

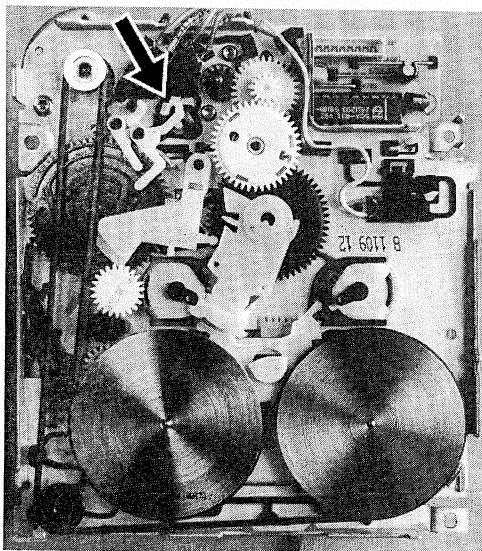


Figure 5

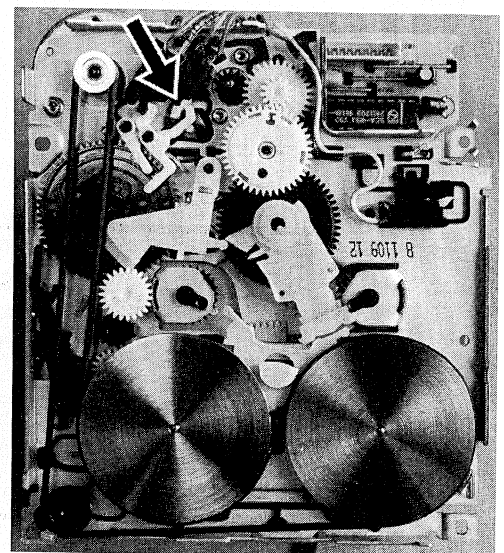


Figure 6

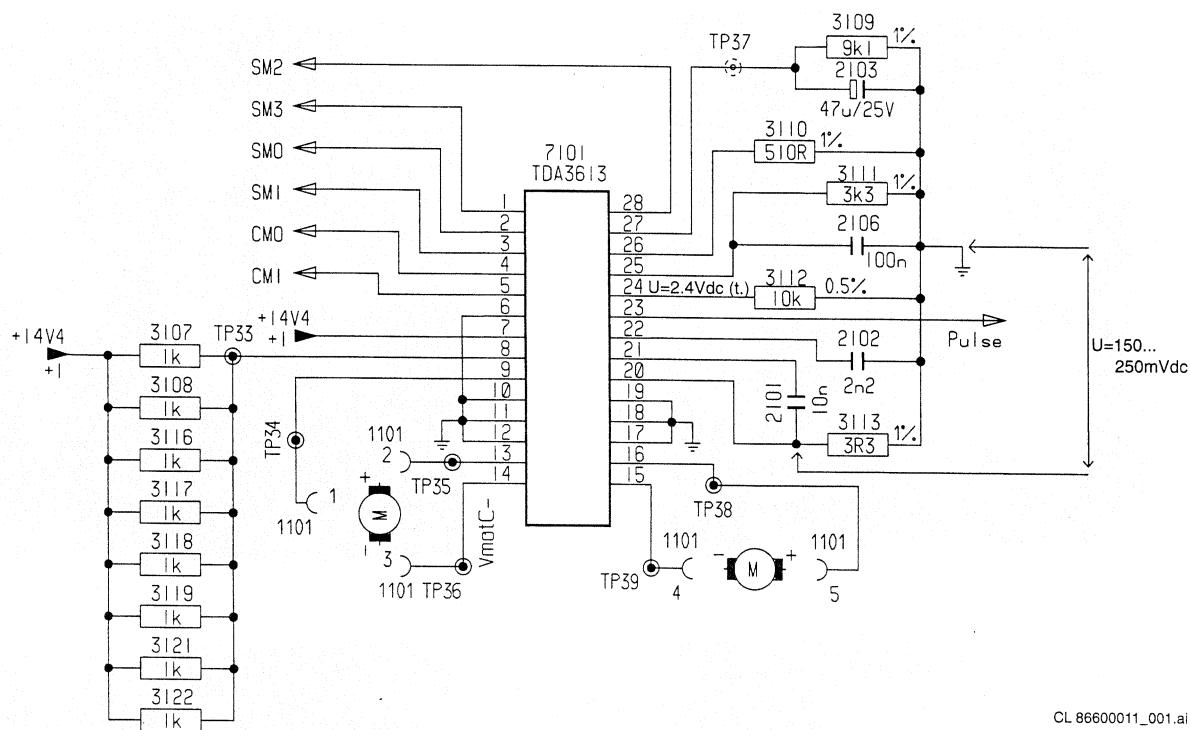


Figure 7

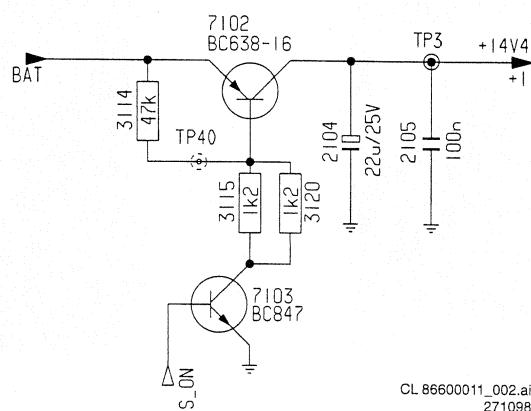


Figure 8

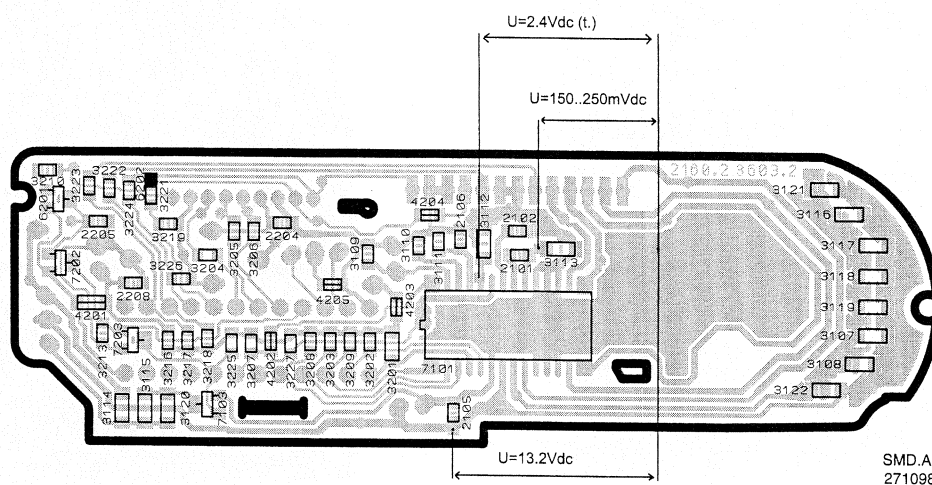


Figure 9

4. MAINTENANCE

The tape deck mechanism requires periodic cleaning.

4.1 Cleaning cassette

Use drop-in cleaning cassette
SBC114 (4822 389 20035)

4.2 Cleaning with alcohol or spirit

- Cleaning with alcohol or spirit is also possible.
- Especially the following parts need cleaning:
 - Playback head pos. 28 including tape guides.
 - Capstans pos. 9/11 and pressure roller assy pos. 42.

5. CHECKS AND ADJUSTMENTS

5.1 Equipment

Equipment required:

- Universal test cassette SBC419
 - 4822 397 30069
- Universal test cassette SBC420
 - 4822 397 30071
- Friction test cassette 811/CTM
 - 4822 395 30054
- Spring scale 50-500g
 - 4822 395 80028
- Jig / puller for clutch
 - 4822 395 60039
- Wow & Flutter meter
- AC mV meters
- Power supply unit with adjustable voltage
0 – 30VDC / $\geq 2A$

5.2 Wow & Flutter

This check has to be carried out on a COMPLETE car radio set; proceed as follows:

- Connect the wow & flutter meter to the LS outputs.
- Insert test cassette SBC419 or SBC420 and play the 3,150 Hz signal.
- The wow & flutter value must be $\leq 0.5\%$ (DIN weighted – overall life cycle).

5.3 Tape speed drift / Speed adjust

- The tape speed must be $4.76 \text{ cm/s} \pm 3\%$ (overall life cycle).
- The tape speed can be adjusted with the screw of the capstan motor.
- This screw can be reached via the hole in pcb pos. 86 (see figure 10).
- Use a screw driver of 1.8mm with an insulated shaft.

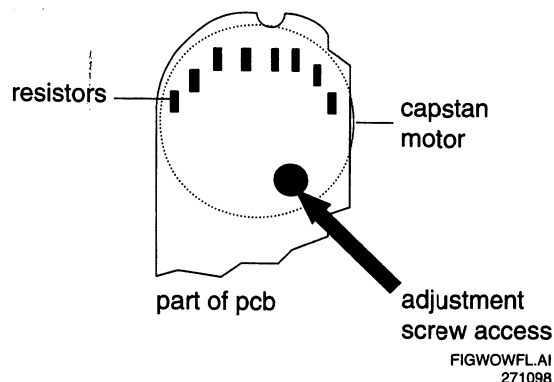


Figure 10

5.4 Play Torque

- Insert friction test cassette 811/CTM (NOR and REV).
- Play mode take-up torque must be 3.5 - 7.5 mNm.

5.5 Check Procedure of Electrical Operation

- **Note:** refer to figures 7 – 9.
- First check the voltage at TP3 (collector of pos. 7102). It must be equal to the normal car voltage (nom. 13.2VDC). If this value is not met, check pos. 7102 / 7103 and replace if necessary.
- Measure the voltage between GND and pin 20 of pos. 7101, as indicated in figure 9. It must be 150 ... 250mVDC and hence IR3113 must have a value between approx. 45 .. 76mA.
- Visually check resistors pos. 3109, 3110 and 3112. The value resp. must be: 9k1, 510Ω and 10k.
In case of doubts, check the value with help of an Ω-meter.
- Measure voltage at the indicated point (pos. 7101 pin 24); this must be 2.4VDC (typical value). If this value is not met, replace pos. 7101 or pcb.
- Check the servo motor by measuring its coil resistance; the value must be approx. 12Ω.
- Check the mechanical operation of the motor by applying a voltage of approx. 3VDC to it.

Notes: + to red-marked terminal;
disconnect motor from IC!

5.6 Mechanical Check

If there is no improvement of deck operation, first clean the deck as described, then check the following parts for correct functioning:

- Motors pos. 1 and 12
- Pressure rollers of pos. 42
- Belt pos. 3
- Flywheels pos. 9 and 11
- Diverting wheel (pulley) pos. 10
- All gears

In case of need to replace one or more parts, refer to the 'Dis-/Re-assembly Procedure' part.

6. DIS-/RE-ASSEMBLY PROCEDURE

6.1 Important

Before disassembling the tape deck, take care that the cassette holder pos. 51/52 is in the **eject** position. See figures 1 and 11.

Handle the cassette lift assy carefully to prevent bending it.

For re-assembling, follow the procedures in reverse order. Take care that the wires, cams etc. are in the right position again after re-assembling.

For the exact position of the parts, refer to the exploded view (fig. 19).

6.2 Standby position

Refer to figure 2.

Take care that the cassette lift and the transport disc pos. 33 are in the right position (see '6.1') before to put it in the standby position!

The lift can be put in the standby position by turning gear assy pos. 16 / 17 / 92 to the right. Hold the lever on pos. 52 in such a way that the cassette holder is unblocked and can move backward completely; keep turning the gear assy until lift moves downwards.

Be careful not to bend metal parts unnecessarily and not to damage the gears, flywheels and belt!

6.3 Switches

To remove the

- PLAY switch pos.100,
- STANDBY switch pos.101,
- INSERT switch pos.102 and/or
- ME/CR switch pos.103,

carefully slide the switch(es) concerned out of the holder.

6.4 Capstan motor pos. 1

- Remove the belt pos. 3.
- Remove the screw pos. 88.
- Carefully slide out the pcb fixation pos. 58 and lift up the pcb pos. 86.
Take care not to damage the black pcb supports!
- Unscrew the two screws pos. 2.
- Unsolder the capstan motor connections and take out the capstan motor.
- When re-assembling, take care that the cam on the chassis grasps in the spare screw hole of the motor.

Note: Use a *new* belt when re-assembling!

6.5 Servo motor pos. 12

- Remove the screw pos. 88.
- Carefully slide out the pcb fixation pos. 58 and lift up the pcb pos. 86.
Take care not to damage the black pcb supports!
- Unscrew the two screws pos. 14.
- Unsolder the servo motor connections and take out the servo motor.
- When re-assembling, take care that the cam on the chassis grasps in the hole of the motor.
- Note: Take care *not* to damage the gears!

6.6 Pressure rollers pos. 42

- Remove the holders with the pressure rollers by unclicking them from the centre pivot which is at the right side of the base plate pos. 23.

6.7 Head assy pos. 28

- Remove the pressure rollers as described in '6.6'.
- Remove the spring pos. 30.
- Remove the head assy from the holder of the base plate pos. 23.
- Note: When re-assembling, take care to put the spring pos. 30 in the right position again! See figure 13.

6.8 Flywheel / gear assy (NOR) pos. 11

- Remove the belt pos. 3.
- Remove the oil protection ring pos. 7 from the capstan of flywheel pos. 11.
- Remove fixation retaining ring pos. 6.
- Take out the flywheel.
- Note: when re-assembling, use a *new retaining ring and belt*, and take care that the gear does not become damaged. Put the flywheel spindle into the bearing carefully and turn it slightly.
Clean the capstan.

(continued on page 5)

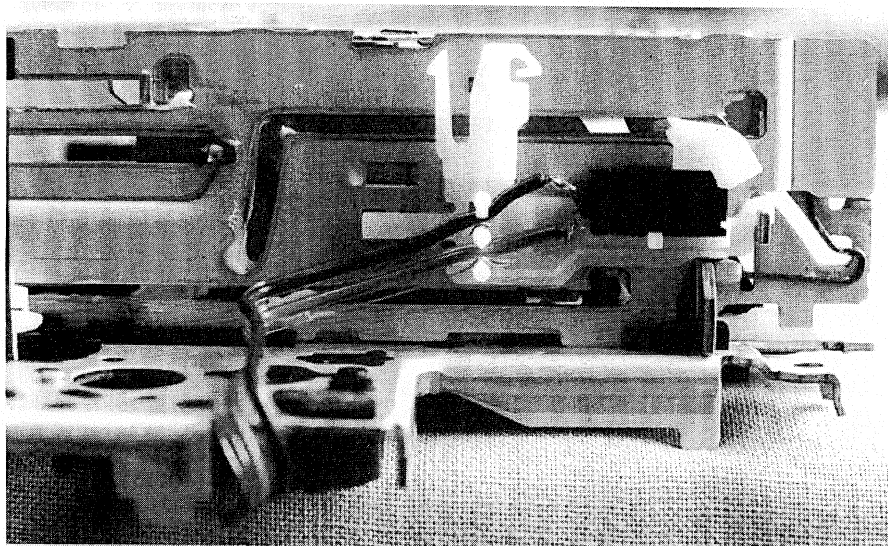


Figure 11

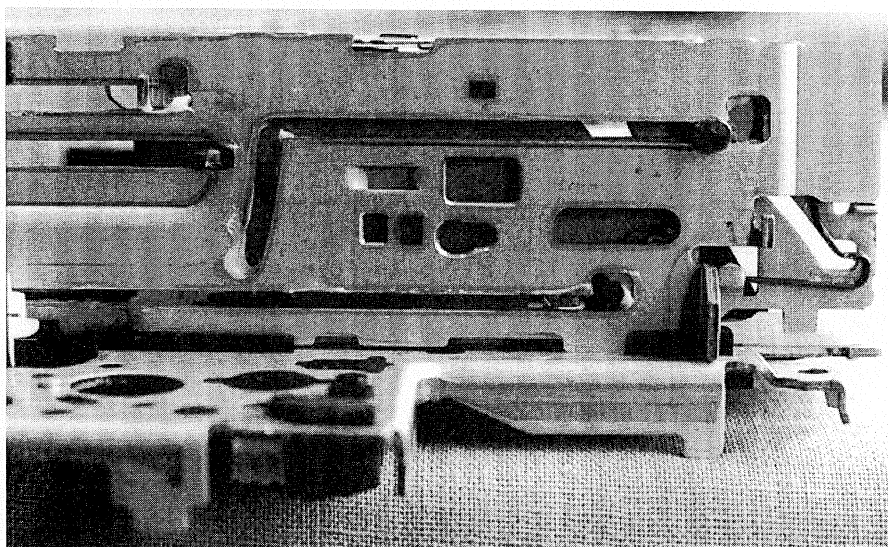


Figure 12

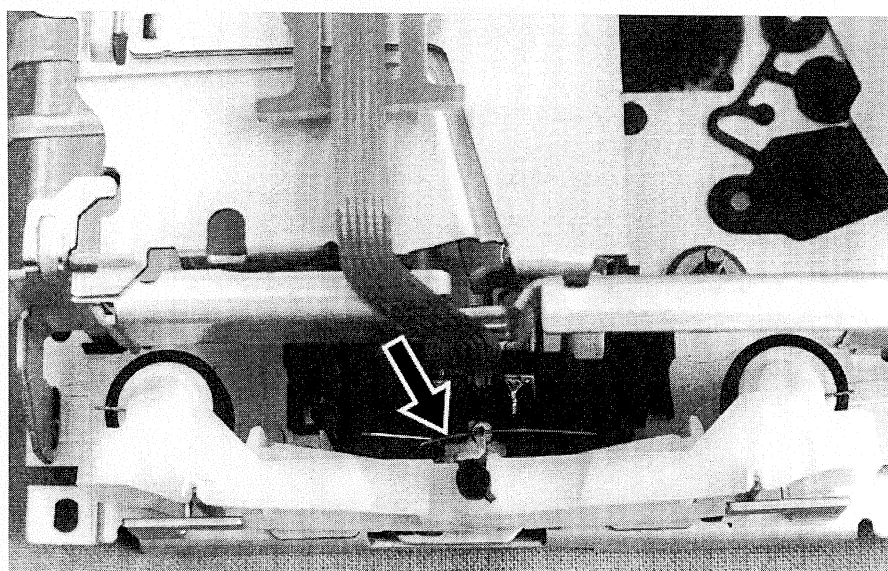


Figure 13

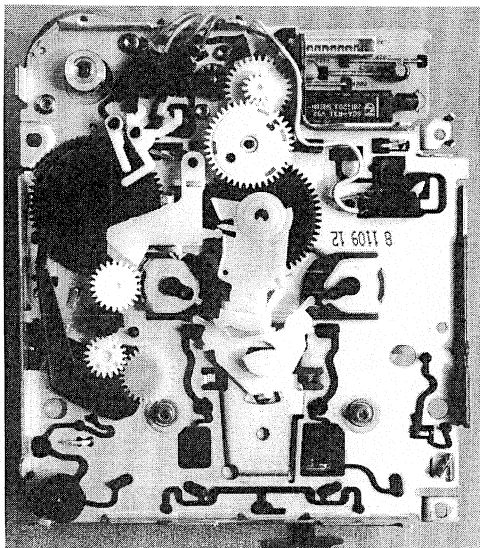


Figure 14

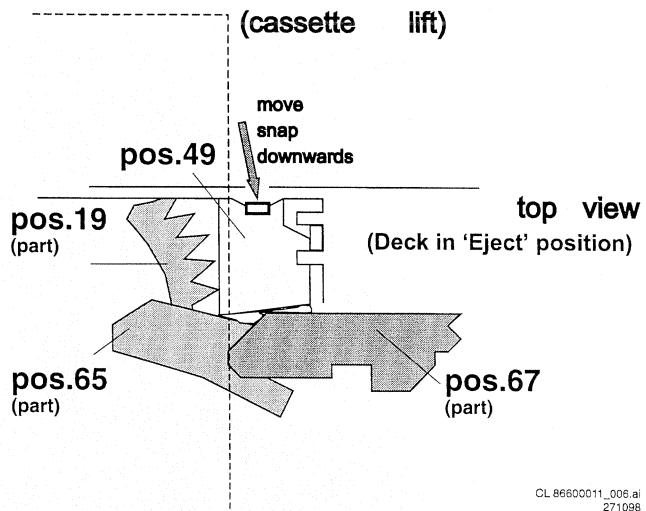


Figure 15

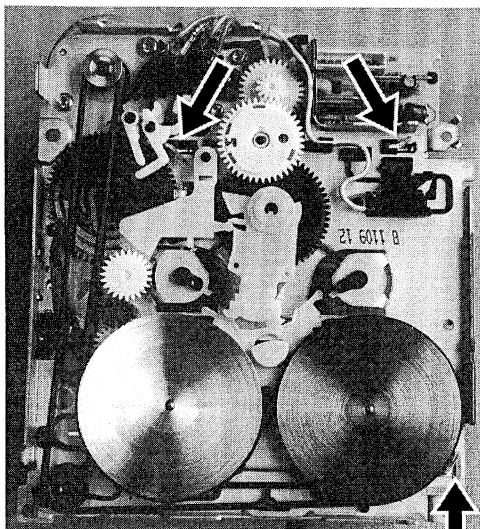


Figure 16

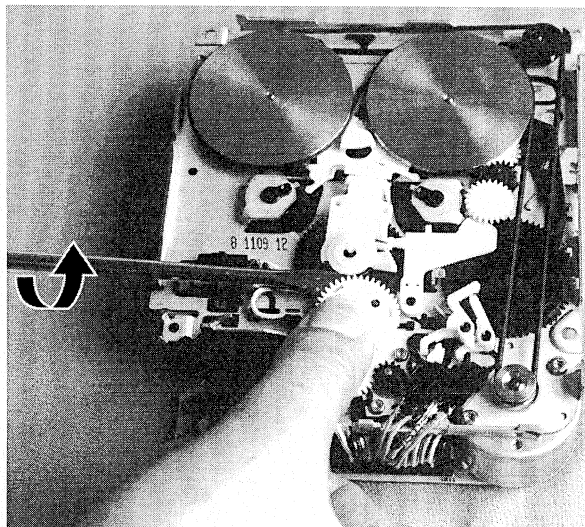


Figure 17

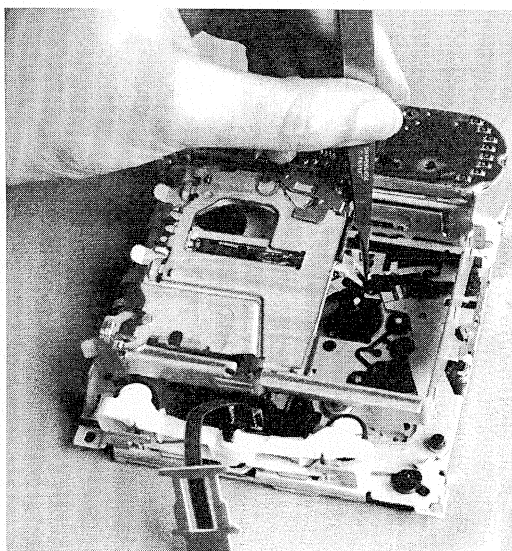


Figure 18

6.9 Flywheel (REV) pos. 9

- First move the cassette holder to the **standby** position. Refer to '6.2' and figure 2.
- When the cassette holder reaches the standby position, the capstan of flywheel pos. 9 can be reached.
- Remove the belt pos. 3.
- Remove the oil protection ring pos. 7 from the capstan of flywheel pos. 9.
- Remove fixation retaining ring pos. 6.
- Take out the flywheel.
- *Note: when re-assembling, use a new retaining ring and belt!*
- Clean the capstan.

6.10 Take-up wheel (NOR) / back tension spring pos. 21

- The cassette holder assy pos. 51 / 52 must be in the **eject** position. If the holder assy isn't yet, turn flywheel NOR pos. 11 to the left.
- When the cassette holder reaches the eject position, take-up wheel (NOR) can be reached.
- Carefully shift levers pos. 65 / 67 in backward direction until the take-up wheel becomes free.
- Take off take-up wheel by pulling it upward and holding the fixation snaps of the pivot together simultaneously.
- *Note: When re-assembling, grease the pivot. See figure 20.*

6.11 Take-up wheel (REV) / back tension spring pos. 21

- The cassette holder assy pos. 51 / 52 must be in the **standby** position. Refer to '6.2' and figure 2.
- When the cassette holder reaches the standby position, take-up wheel (REV) can be reached.
- Take off take-up wheel by pulling it upward and holding the fixation snaps of the pivot together simultaneously.
- *Note: When re-assembling, grease the pivot. See figure 20.*

6.12 Replacing Special Parts

Unless replacing after damaging, the following parts may be taken out NEVER:

- Transport disc pos. 33
- Switch wheel 1 pos. 37 / Switch lever assy pos. 39
- Gear rod pos. 54 / Lift wheel gear pos. 68
- Servo drive gear cluster pos. 15
- Diverting wheel pos. 10
- Coupling lever assy pos. 65

The following sections describe the dis- / re-assembling procedure of these parts, when they need to be replaced.

6.13 Transport disc pos. 33

- Remove belt pos. 3.
- Remove switching lever pos. 49 by releasing the snap as shown in figure 15.
- Remove play switch lever pos. 80.
- Remove standby switch lever pos. 79.
- Carefully move the arm of switch lever assy pos. 39 away from the transport disc.
- Remove intermediate wheel pos. 34.
- Cut the three snappers of the transport disc pos. 33 and take out the disc. Do not damage the post!
- When re-assembling, insert a new transport disc. Take care that the head support contour is in the 'standby' position. Also take care that the switching lever pos. 49 is in the right position again! See fig. 1.
- Grease the head support contour at the right points. See figure 21.

6.14 Switch wheel 1 pos.37 / Switch lever assy pos. 39

- Remove flywheel (NOR) pos.11 as described in '6.8'.
- Cut pin of switch wheel 1 pos. 37.
- Take out switch lever assy pos. 39.
- When re-assembling, insert a new switch wheel.

6.15 Gear rod pos. 54 / Lift wheel gear pos. 68

- First remove the cassette loading assy pos. 50 by bending the three lips of the assy in straight position, lifting it at the front and sliding it out carefully. See figure 16.
- Take out gear rod pos. 54.
- Remove fixation retaining ring pos. 6.
- Take out lift wheel gear pos. 68.
- *Note: when re-assembling, use a new ring!*

(continued on page 6)

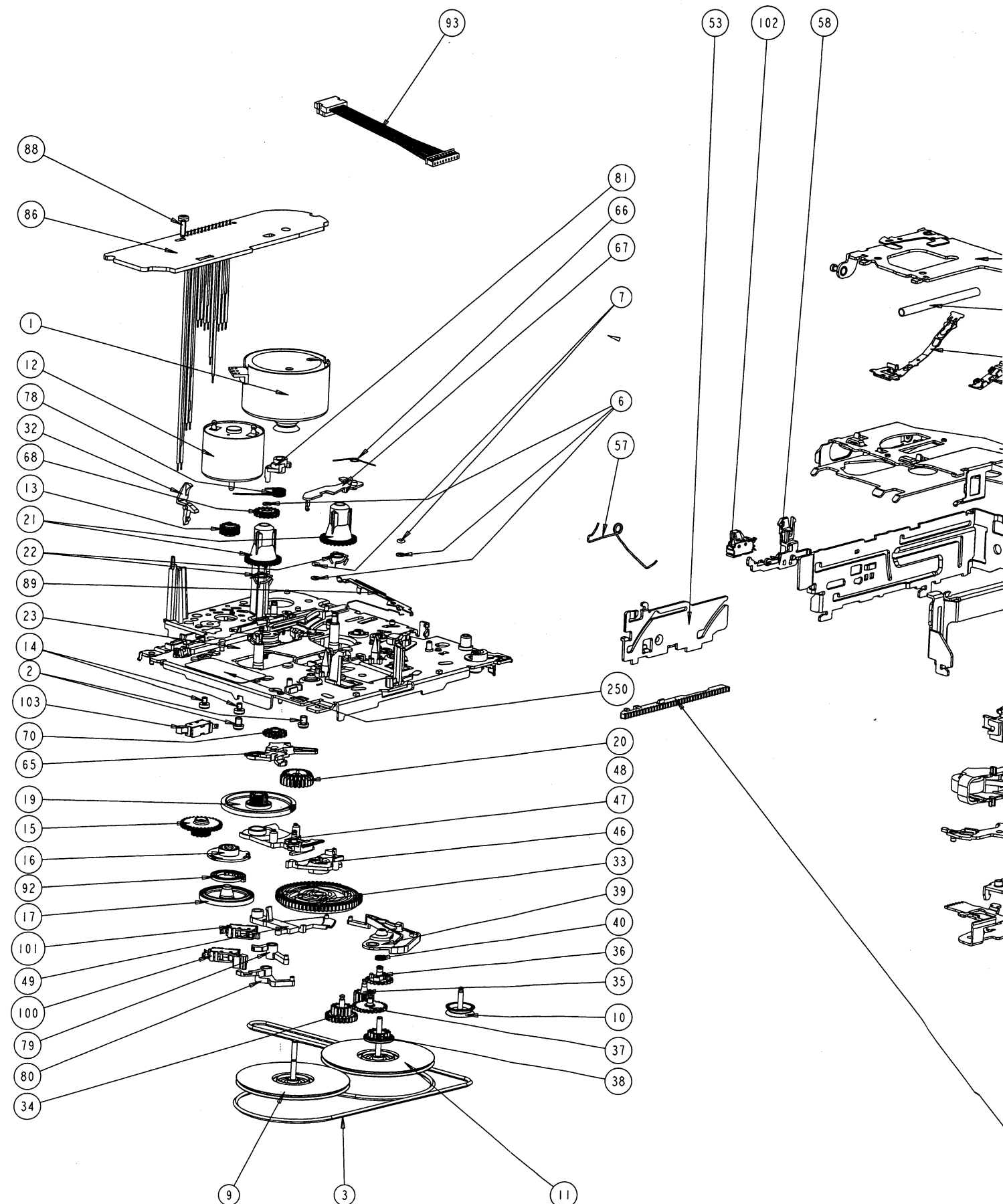


Figure 19

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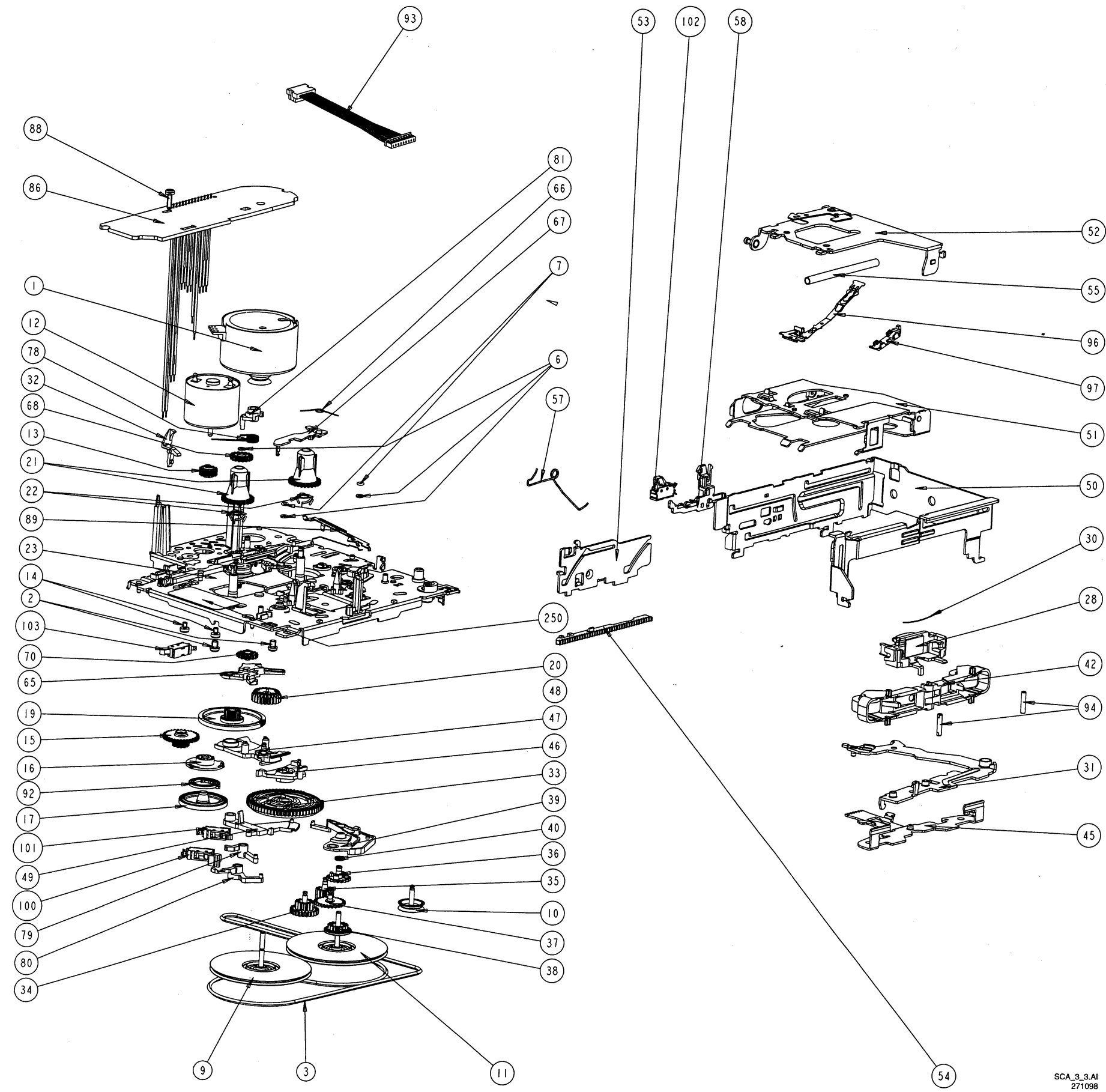


Figure 19

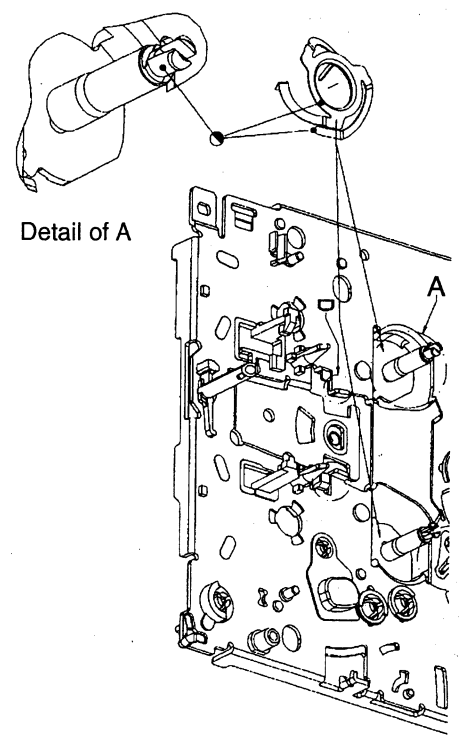


Figure 20

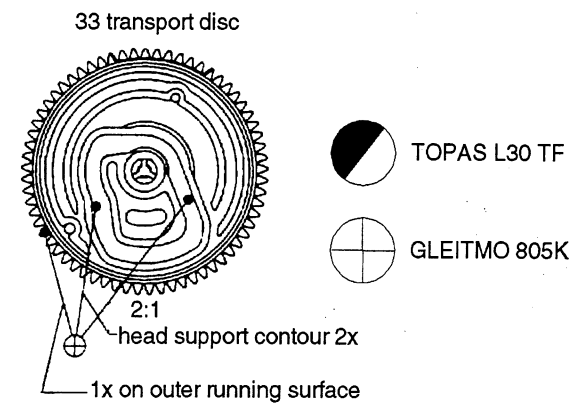


Figure 21

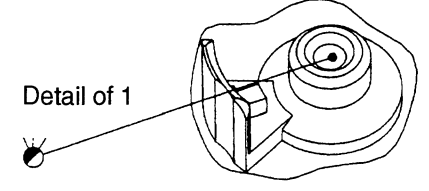
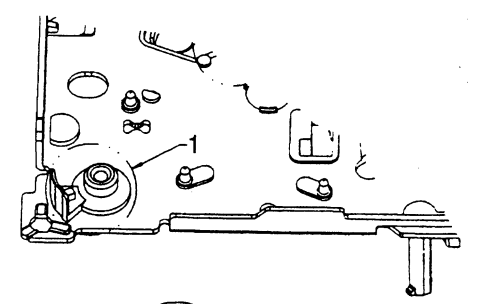


Figure 22

SCA_3_3AI
271098

6.16 Servo drive gear cluster pos. 15

- *Note:* refer to figure 17.
- **Carefully** lift the damping gear pos. 16 / 17 / 92 by a screwdriver as shown in the figure and remove it.
- Leave this assy complete!
- Remove switching lever pos. 49.
- Remove swivel lever assy pos. 47.
- Take out connection wheel pos. 19.
- Take out gear cluster pos. 15.
- *Important:* when re-assembling, oil the gear bearings.

6.17 Diverting wheel pos. 10

- Remove belt pos. 3.
- Remove the diverting wheel with help of special jig / puller.
- *Note:* When re-assembling, grease the wheel bearing in accordance with figure 22 and insert a *new* belt!

6.18 Coupling lever assy pos. 65

- *Note:* the deck must be in the **eject** position!
- Remove damping gear assy pos. 16 / 17 / 92 (see '6.16'). Leave this assy complete!
- Remove switch lever assy pos. 49 (see '6.13').
- Remove swivel lever assy pos. 47.
- Remove connection wheel assy pos. 19.
- Remove coupling spring pos. 66.
- Shift the coupling slider pos. 67 completely backward and remove it with help of a pair of tweezers.
- See figure 18.
- Take out the coupling lever pos. 65.

6.19 Re-assembly precautions

When re-assembling the deck, take care of proper mounting of the cassette loading assy. The cam of the lift plate pos. 53 (A in figure below) must fall into the sleeve of the loading assy plate of pos. 50. See figures 11, 12 and 23.

The other cam B must fall into the notch of the gear rod.

The loading assy plate must match the base plate *completely*. Bend the three lips back into the right direction so that the loading assy plate is locked. See also figure 16.

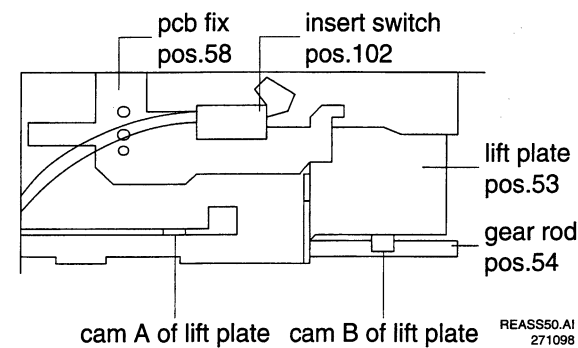


Figure 23

Always use a new belt when re-assembling it! The belt must be mounted as indicated in the figure below.

Take care that the belt is not twisted, not touched by grease and not damaged by sharp edges of the chassis!

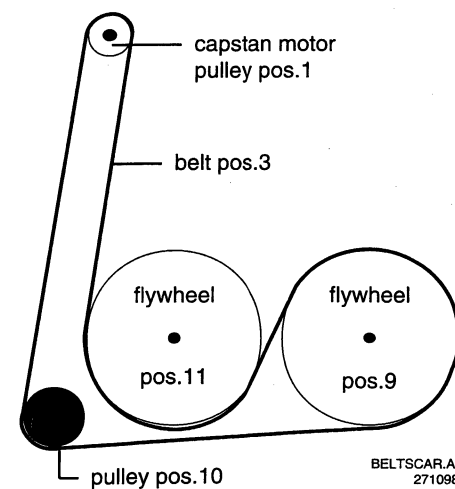


Figure 24

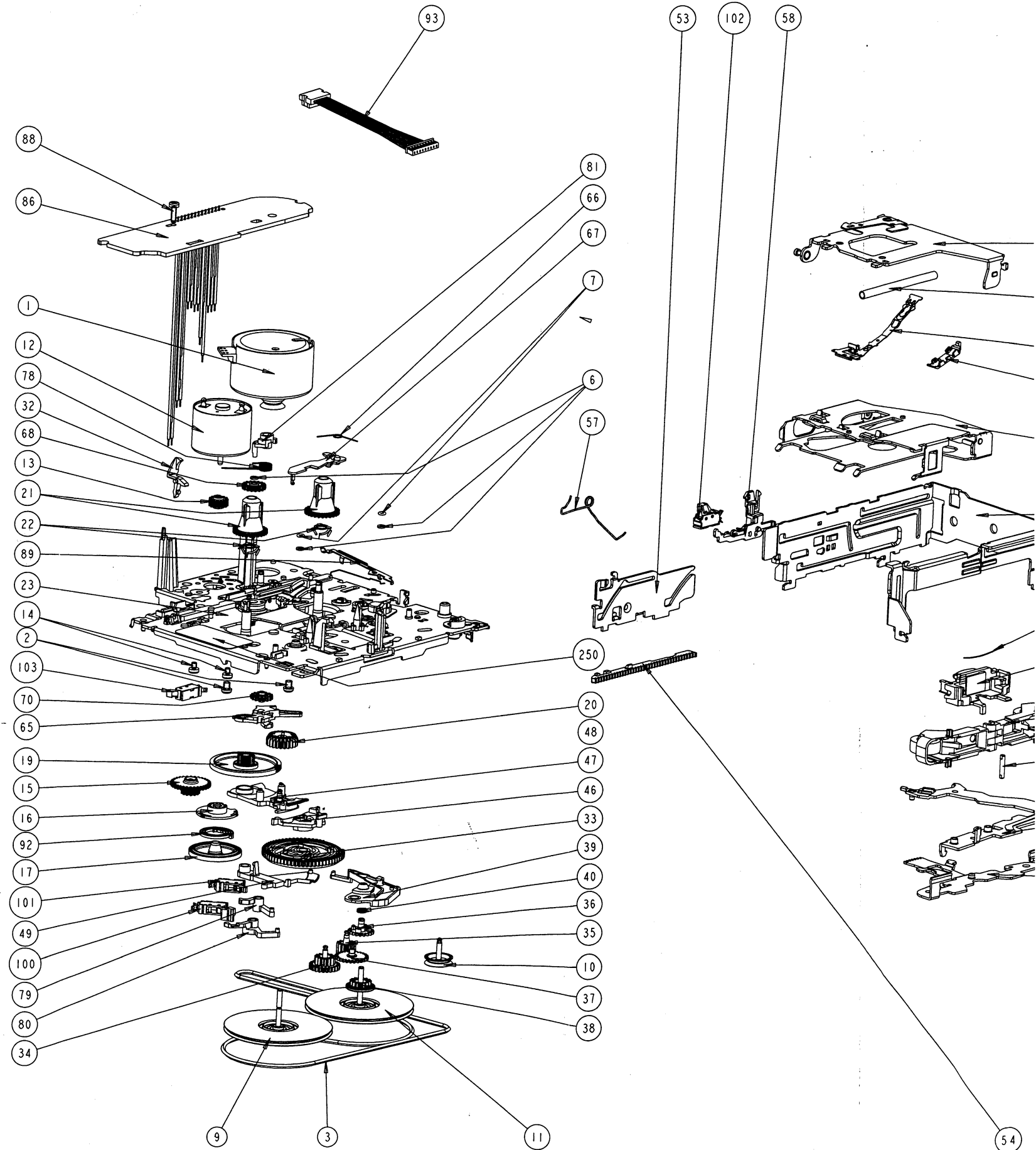


Figure 19

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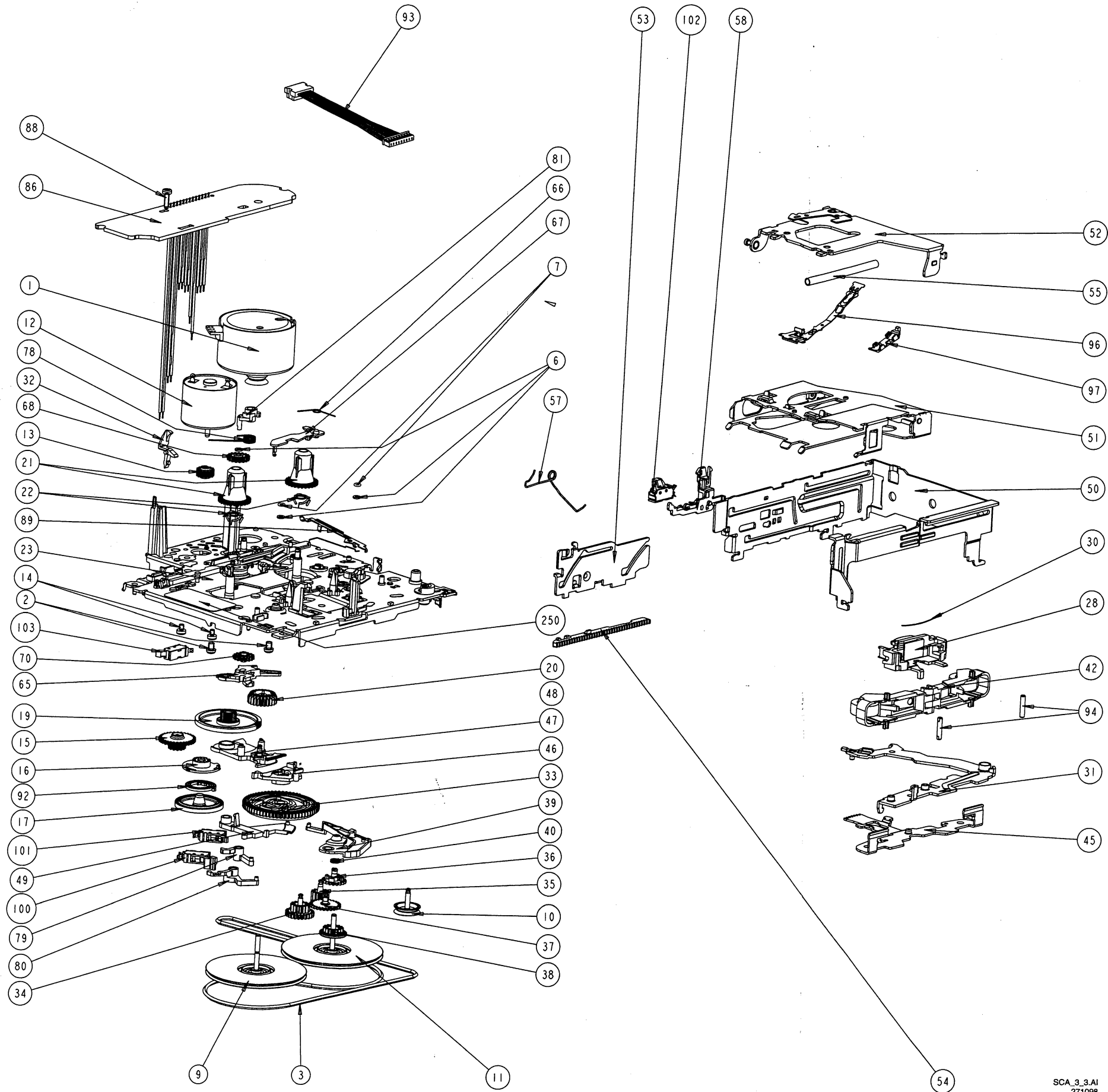


Figure 19

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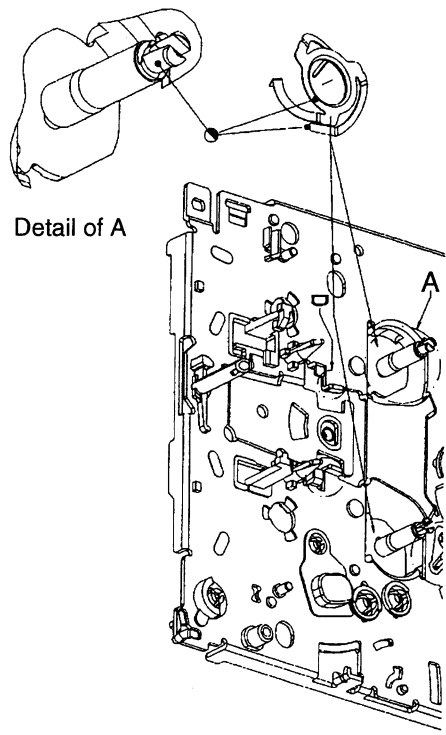


Figure 20

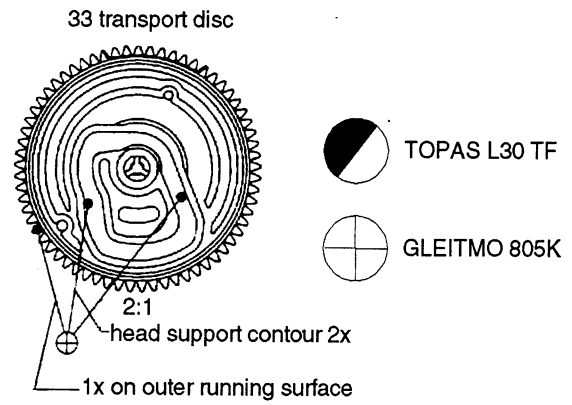


Figure 21

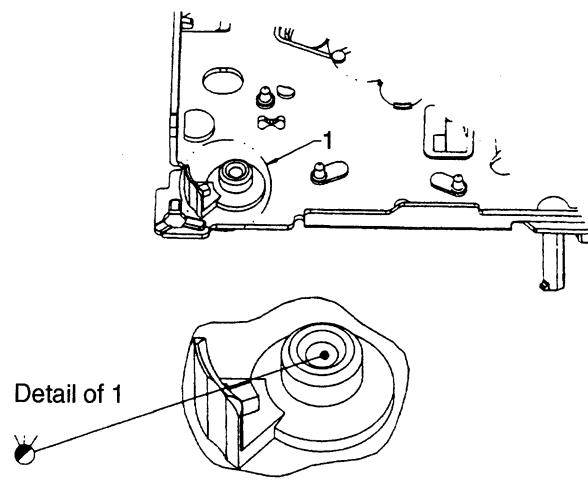


Figure 22